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THE

FAMILY PHYSICIAN;

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Domestic Medical Friend:

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PLAIN AND PRACTICAL INSTRUCTIONS

FOR THE

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NECESSARY TO BE KNOWN BY

THE PRIVATE PRACTITIONER.

THE WHOLE ADAPTED TO

THE USE OF THOSE HEADS OF FAMILIES

WHO HAVE NOT HAD A CLASSICAL OR MEDICAL EDUCATION.

BY

ALEXANDER THOMSON, M. D.

AUTHOR OF A TREATISE ON NERVOUS DISORDERS; OF DIALOGUES IN A LIBRARY;
AND OTHER PRODUCTIONS.

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PREFACE.

THE work here offered to the public is so intimately connected with human happiness, that little need be said in favour of its general utility. To preserve the health of the body, and to cure its diseases, have ever been regarded as objects of great importance to mankind; and a knowledge of the means for promoting these salutary purposes can never be too widely diffused. The art, however, of preserving health is, in general, so little cultivated, as well as imperfectly understood, that more diseases proceed from a violation of its precepts than from all other causes whatever; and, with regard to the cure of them, an early observance of their approach, and a prompt application of medicine, are circumstances which, if unfortunately neglected, no subsequent skill or exertion may ever afterwards be able to retrieve.

Another circumstance also contributes greatly to favour the progress of diseases. People often, from various motives, are disinclined to call for the assistance of a physician, until the disorder has so far advanced, that neither the distress of the patient, nor the apprehensions of his friends, can admit of any longer procrastination. Whether the disease be chronic or acute, this delay proves equally pernicious. If chronic, disease may become so fixed in the habit as to r the utmost efforts of medicine; and if acute, the dity of its progress may not only bid defiance to a straint, but utterly preclude every reasonable hop recovery.

Nothing, therefore, can so effectually obviate t inconveniences as a work of the present kind, w not only teaches to discover a disease at an earl riod, but to apply the proper means, as well for venting its increase as, if possible, for its total ex tion.

The author's principal care has been to describe various diseases with accuracy, and to recommend a method of cure as is conformable to the latest blished improvements in medical practice. In ex ting this plan, he has every-where endeavoured sparing in the use of technical expressions; but total exclusion of them being incompatible with p sion of sentiment, an explanation of all such term given in a Glossary.

It was originally intended to give a list of the useful simples and medicinal preparations for a m cine chest; but this idea was at last relinquished, the consideration that the usual assortment of t chests would render the object unnecessary.

As many readers may be totally unacquaint the nature of some classes of medicines, such as sorbents, alkaline salts, &c. an explanatory accou these different substances is given in the Appen and it is confidently hoped that the various ar contained in that part of the volume will be foun only to afford much useful information, but greatly to facilitate the accomplishment of the purpose which is the chief object of the work.

To point out any particular part as more interesting than another, where the whole is equally practical, might be deemed an arbitrary distinction; but, among the preliminary chapters, the reader will perhaps be peculiarly gratified with the historical view of the theories which have successively prevailed in medicine; the physical account of the air or atmosphere; and the copious medicinal detail of all the principal articles of diet.

Upon the whole, if extensive research, important observation, and practical utility, can stamp an incontestable value on a medical production, there is reason to think that the present treatise has, more than any other work of the kind, either foreign or domestic, such just pretensions to the approbation and favour of the public as cannot but ensure its success.

A. T.

London,
June 12, 1801.

TO THE BOOKSELLERS.

THE Publisher of Dr. THOMSON's FAMILY PHYSICIAN, to encourage the trade to keep copies upon hand for the accommodation of their customers, and that the work may consequently obtain the universal circulation to which it is entitled by its merit and utility, engages at any time to exchange new, perfect, and well-bound copies, which remain unsold, for any other book or books of which he is the proprietor.

No. 71, St. Paul's Church-Yard,
June 12, 1801.

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ERRATA.

Page 137, read line twenty *after* line twenty-one.
242, line 21, for *hoas* read *hours*.
260, line 33, for *abdanum* read *ladanum*.
284, last line but one, dele *symptoms*.
377, for *wetted* read *wet*.

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INTRODUCTORY CHAPTER,

Containing some General Observations on the Structure of the HUMAN BODY.

BEFORE we enter upon the prevention or cure of diseases, it may not be improper to take a cursory view of the human body, respecting the functions immediately connected with life. So wonderful is the structure of our frame, as displayed by anatomy, that atheistical persons, obdurate to every other evidence of the existence of a God, who created the universe, have, on witnessing a dissection, been instantly convinced of their mistake, and have acknowledged with equal astonishment and shame, that nothing less than a Being of infinite wisdom and power could have contrived and executed such a wonderful piece of mechanism as that of the human body.

The primary agent in the circulation of the blood is the heart, a large muscle situated in the left side of the breast (thorax, or chest), and endowed with great irritability. In the first rudiments of animal life, even before the brain is formed, the *punctum saliens,* as it is called, points out the embryo heart in miniature, and marks its primæval irritability as a sure presage of its future importance in supporting the vital motions. As this singular organ exhibits irritability the first, so it never relinquishes it till the last; whence it has been called the *primum mobile,* and *ultimum moriens,* that is, "the first part that moves, and the last that dies," of the animal machine. It is observable, that the motion of the heart not only survives that of the organs of voluntary motion, but continues a considerable time even after it is separated from the body of many animals. Hence, in drowning, or suffocation, though the pulse be imperceptible, and apparently extinguished, yet the heart still preserves this latent power or susceptibility of motion, and wants only to be gently excited by suitable means to renew its action.

This organ is surrounded by the pericardium, or heart-purse, an exceeding strong membrane, which covers the heart, even to its basis. Its uses are to keep the heart from having any friction with the lungs, and to contain a fluid to lubricate or moisten its surface.

From the right ventricle or cavity of the heart, the irritability of which is excited into action by the circulating fluid, the blood is propelled through the lungs, which are situated on the right and left side of the heart, from which they differ in appearing to be void of irritability. They are divided into two lobes, and these into more divisions, three on the right side, and two on the left. The trachea, or wind-pipe, descends into the lungs, and forms innumerable cells, which have a communication with each other, and give the whole the appearance of a honey-comb or sponge.

The blood, after passing through the lungs, arrives again at the heart, and from the left ventricle is expelled into the *aorta*, or great artery; which, dividing into two branches, one upwards, and the other downwards, distributes the blood through the whole body; from the extremities of which it returns, by various veins, through the ascending and descending cava[*], and is transmitted again to the heart.

The heart is the grand organ which actuates the vital functions; and to this purpose it is admirably fitted by its own irritability; but it is necessarily supported in its action by the powerful influence of the nerves, which are the ultimate instruments both of motion and sensation, and have their origin in the brain.

The diaphragm or midriff is a large broad muscle, which divides the thorax from the abdomen[†] or belly. In its natural state, it is concave or vaulted towards the abdomen, and convex towards the thorax[‡]. Haller calls it "the most noble bowel next to the heart;" and, like the latter, it is in constant action. At the time of inspiration it approaches towards a plane. Besides being a muscle of inspiration, it assists in vomiting, and the expulsion of the fæces *. From the exertion of this muscle likewise proceed sighing, yawning, coughing, and laughing. It is affected by spasms, as in the hiccup, &c. It is both a muscle of voluntary and involuntary action. We may observe in this muscle strong characters of admirable contrivance. It separates posteriorly into two slips, between which the descending aorta passes. A little above this, and towards the left side, in the most fleshy part of the midriff, there is a direct opening for the passage of the *œsophagus* or gullet. There is also on the right side a large triangular hole for the passage of the ascending *cava*.

---

[*] Cava is the large vein which conveys the refluent blood to the heart.

[†] Abdomen, from *abdo* to hide, as its contents lie hidden.

[‡] Derived from the Greek, signifying the breast.

The gullet is composed both of longitudinal and circular fibres, but chiefly circular, much more so than the intestines; because this has no foreign power to assist it, and because it is necessary that the food should make a shorter stay in the throat than in the bowels. The inner surface is a smooth membrane, well supplied with mucilage, to sheath the organ, and render the passage of the aliment or food easy.

The stomach lies across the upper part of the abdomen, and is covered by the liver; when distended it presses on the spleen. It nearly resembles in figure the pouch of a bag-pipe, its upper side being concave, and the lower convex. Its left end is the most capacious. On the left side is the entrance from the gullet: on the right is the opening called *pylorus*, by which the chyle passes into the intestines. Here is a circular valve, or sphincter-muscle, which prevents a regurgitation of the aliment. The stomach has circular and longitudinal fibres, and its inner membrane is covered with a strong viscid mucus.

The liver, the largest gland in the body, is situated immediately under the vaulted cavity of the midriff, chiefly on the right side, and somewhat on the left over the stomach. Exteriorly, or anteriorly, it is convex, inwardly it is concave; very thick in its superior part, and thin in its inferior. The upper side adheres to the midriff; and it is fixed to this, and the *sternum*, or breast-bone, by a broad ligament. It is also tied to the navel by a ligamentous band,

---

[*] This word with chemists is used to express the ingredients and settling after distillation and infusion; here it means excrement.

which is the umbilical vein of the unborn infant, degenerated into a ligament. Both these bands serve to suspend it, while lying on the back, from bearing too much on the subjacent *cava;* otherwise it might press on this important returning vessel, stop the circulation, and put a period to life. Dogs and cats, and other animals who are designed for leaping, have their liver divided into many distinct lobules, to prevent too great a concussion of the organ. The liver is the viscus or bowel which performs the secretion of the bile.

The gall-bladder is situated under the great lobe of the liver, a little to the right. In a standing posture it lies forwards and downwards. Its bottom is raised by a fulness, and depressed by the emptying of the stomach. The use of the gall-bladder is to serve as a receptacle for the bile.

The intestines are destined to receive the food from the stomach, and, after exposing the useful part of it to the *lacteals,* a set of extremely small vessels, to convey the remainder out of the body. The intestinal canal is usually five times the length of the individual: it is curiously convoluted in the abdomen, and is extremely irritable. Anatomists have divided this canal, although one continued pipe, into six portions, three of which are termed the *small* intestines *, and the three last, the *great.* In the small intestines there are numerous plaits to detain the food, and allow a larger surface for its absorption. These are larger, and far more numerous near the stomach, where the food is thinner, than they are towards the other extremity. At the entrance of the *ilium* into the *colon,* there are two very large valves, which prevent the regress of the fæces into the ilium. The *cæcum* and *colon,* two of the intestines towards the lower extremity, besides having stronger muscular coats than the small intestines, are furnished with three ligamentous bands, running lengthwise on their outside, dividing their surfaces into three portions nearly equal. Though appearing externally like ligaments, they are composed, in their inner structure, of true muscular fibres. The ligament-like bands, which in the cæcum and colon are collected into three portions, are spread equally over the surface of the *rectum*, or lower extremity of the intestines. This is a wise precaution of Nature, that no part of it may be weaker than another, lest it should give way in the efforts for expelling the *fæces*. The plaits are considerably fewer in the great intestines. They have all an inner membrane, covered with an infinite number of arteries or glands, which discharge a lubricating fluid. They are furnished with muscular fibres, both circular and longitudinal.

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* The three smaller are, the *duodenum* (from its length being about that of the breadth of twelve fingers), *jejunum,* and *ilium,* from the Greek, signifying to turn about, because it makes many convolutions.

The three larger are, the *cæcum,* or blind gut (so called from its being perforated at one end only); the *colon,* signifying hollow, a word from the Greek; and the *rectum,* or straight gut.

The spleen, or milt, is situated immediately under the edge of the midriff, above the left kidney, and between the stomach and ribs. In figure, it resembles a depressed oval, near twice as long as broad, and almost twice as broad as thick. Cheselden informs us, that it has been taken from dogs without any observable inconvenience to them. Its use is still problematical.

The pancreas, or sweet-bread, is situated transversely under the stomach. Its shape resembles a dog's tongue. Along the whole length of it there is a duct, which terminates in the upper part of the intestines near the stomach. The pancreatic juice resembles the saliva, but is less viscid or slimy, and contains a larger proportion of the salts of the blood. It is probably intended for the solution of our aliment.

The kidneys are two oval bodies, situated in the loins, contiguous to the two last short ribs; the right under the liver, and the left under the spleen. The structure of the kidneys is curiously fitted for secreting the urine, which is carried from each of them by canals termed the ureters, into the bladder, the reservoir of that fluid, situated in the lower part of the belly. They enter the bladder near its neck, running for the space of an inch obliquely between its coats, and forming, as it were, to themselves, two valves; so that, upon the contraction of the bladder, the urine is directed along the urethra, which is its proper passage out of the body.

Over the upper part of the abdomen is spread the *omentum*, or caul, consisting of two broad, thin, and transparent membranes, joined together by cellular texture, in the cells of which a quantity of fat is deposited. The uses of it are to interpose between the *peritonæum* *, or lining, the intestines, and the stomach, to keep all these parts moist, warm, slippery, and to prevent their adhesion.

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* Signifying near to, stretching round, or about, as *peri*osteum, *peri*carpium, near to the bone, heart, &c.

Last of all comes the peritonæum, a strong membrane, which confines, as in an inclosure, the intestines and contents of the abdomen.

Such, in a general view, are the contents of the cavities of the breast and belly, which perform, respectively, the vital motions, and those natural functions that are subservient to the support of our frame. But there remains to be mentioned another essential cavity, with its dependent system, to the primary influence of which all the other parts of the body are indebted for their action and energy. The cavity to which I allude is the skull, the receptacle of the brain. The brain is divided into two portions; namely, the *cerebrum*, and *cerebellum*[*]; the former situated in the upper part of the skull, and the latter under it, in the hind part. The brain is a soft pulpy substance, surrounded by two membranes; one called *dura*, and the other *pia, mater*. It has also a third, called *arachnoid*, from its fineness, as being similar to a spider's web. It contains some *sinuses*, which are nothing more than large veins or receptacles for blood, and four cavities called *ventricles;* moistened, in a healthful state, with a fine vapour, which increasing gives rise to diseases. Like other parts of the body, it has a variety of arterial branches from the heart, which are diffused through its substance, and on the membranes. The brain is the great elaboratory, where the animal spirits, or nervous influences which actuate our frame, are supposed to receive their existence. The nature of this fluid, if really a fluid, has not yet been sufficiently investigated. It is certain, however, that from this source the nerves derive their origin. These are white, firm, solid cords, which arise from the brain and spinal marrow, which is only an elongation of the brain, and are spread over every part of the body endowed with sensibility, by innumerable filaments. Ten pair of nerves issue from the brain itself, and thirty from the spinal marrow. Those that go to the organs of sense are considerably larger than the rest, and are in part divested of their outer covering.

Whether an immaterial and invisible Being can positively be said to exist in any place, it might appear presumptuous to determine; but it is a prevailing opinion in physiology, that the brain is the seat of the soul; and the *pineal* gland, in the *penetralia* of the brain, has been assigned as the sacred mansion of this immortal inhabitant. Human vision can discover no signs to confirm this opinion; but the man would be blind, and utterly void of understanding, who could not trace through the whole of the animal system the most evident marks of Divine Intelligence and Wisdom; of intelligence which excites admiration, and of wisdom beyond conception.

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[*] *Cerebellum*, the little brain as it were: both are often called thus, when the brain is spoken of in small animals.

The wonderful contrivance exhibited in the human frame is, if possible, still more manifest, from the curious formation of the eye and ear; of which only a very imperfect idea could be conveyed by verbal description. I shall therefore not attempt to delineate those admirable organs: nor need I mention the construction of the limbs; of the arms and legs; of the hands and feet; so nicely united with joints, and so happily supplied with muscles and tendons, with ligaments and nerves, that they are adapted to all the various purposes of convenience and utility in motion.

I shall conclude this imperfect sketch of the human body with a brief account of digestion, that important process in the animal œconomy, by means of which the continual and unavoidable waste of the constitution is regularly supplied.

The aliment being received into the mouth, the first operation it undergoes is to be masticated by the action of the teeth and several muscles. This mastication is of greater moment than is generally imagined; and the good effects of it are further promoted by mixing with the food a quantity of saliva, discharged from the glands of the mouth, and which is greatly conducive to digestion. When the food is carried down the gullet into the stomach, it there meets with an additional supply of juices, called the gastric juices, of a nature yet more efficacious than the former, besides a small portion of bile. During its continuance in the stomach, it experiences the effects of heat, and muscular action, from the coats of that organ, and the motion and warmth of the surrounding parts. It thence passes out gradually by the right orifice of the stomach, and there meets with an additional quantity of bile from the gall-bladder and liver; besides the pancreatic juice, or that of the sweet-bread, of a nature similar to the saliva, but rather more thick, and the fluids separated by the intestines. It now receives the action of the bowels, or the peristaltic motion, by which they churn, as it were, the whole mass, minutely mixing together the food, and the different juices, collected in the passage from the mouth. A fluid is now produced, called chyle, which is separated from the grosser materials, and taken up by a set of extremely small absorbent vessels called lacteals. These have their origin in the inner coat of the intestines, and, passing thence, discharge themselves into a duct named the receptacle of the chyle, whence this fluid proceeds along the *thoracic* duct,* which terminates in the left subclavian † vein. In the passage from the intestines to the receptacle, there is a number of glands, which separate a watery liquid, for the purpose of giving the chyle a thinner consistence. To prevent the chyle from falling back in its progress through the lacteals, the construction of these vessels is admirably contrived. They are furnished with a number of valves, which open only forwards, and are shut by any fluid pressing backwards. From the subclavian vein, the chyle is poured into the blood, and thence immediately thrown into the right auricle and ventricle ‡ of the heart; from which, now mixed with the blood, it passes into the lungs. It undergoes in that organ a considerable change from the act of respiration. From the lungs it proceeds through the pulmonary vein to the left auricle of the heart, and then into the left ventricle; whence, at last, endowed with all the qualities of blood, it passes into the the aorta, and is diffused universally through the frame; the wants of which it is fitted to supply by the addition of nourishing particles.—Is it possible to contemplate this admirable mechanism without breaking forth in the exclamation of the Psalmist, that "we are wonderfully made?" I may justly add, that, considering the great variety of ways in which the human body may be affected, both from without and within, with the necessity for the perpetual motion of the vital powers, and the millions of vessels, invisible to the naked eye, through which the fluids ought to pass, it is a matter of real astonishment that we should subsist a single day. And doubtless it would be impossible, were not the machine constantly sustained by the same Almighty and Beneficent Being who formed it.

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* From thorax the breast.

† A term applied to any thing under the arm-pit or shoulder.

‡ Two muscular bags, one on each side, are termed its auricles, from the Latin signifying ears.

CHAP. II.

Of the Science of Medicine, and of the prevailing Theories among its Professors.

FROM the account given of the human body in the preceding chapter, it will not appear surprising that it should be liable to many disorders; such a number of circumstances being requisite to the harmonious operation of the whole. The process of digestion alone, by which the aliments are converted into blood, is of a nature so complicated, that a defect in any of the organs or fluids requisite for that purpose is sufficient to lay the foundation of a variety of diseases.

In the early ages of the world, when the diet was simple, and the climates inhabited by the human race were of a mild and genial temperature, the seeds of disorders were seldom sown either by irregularity or accident, and never were fostered by the baneful influence of effeminate and luxurious gratification. It is probable, therefore, that, while the pastoral life continued, men generally experienced an uninterrupted state of health; but when, ceasing to sojourn in rural scenes, they assembled together in towns, and formed more extensive societies, they began to degenerate from their former habits, and fell into the corruptions usually incident to a promiscuous mass of inhabitants. Vice then succeeded to innocence, intemperance expelled sobriety, and health was daily sacrificed to the prevalence of sensual depravation.

Natural causes likewise concurred to engender and foment deviations from the standard of health. The bulk of the people, who had abandoned the pursuits of agriculture and the rearing of cattle, were under the necessity of having recourse to manual occupations for subsistence; and many of these being of a sedentary kind, the constitutions of men, which before were liable to be relaxed by the warmth of the climate, would contract a still greater disposition to disorders arising from that cause. To such constitutions, formerly inured to the wholesome air of the country, the polluted atmosphere of populous towns, neither ventilated by the gales nor refreshed by the showers of other latitudes, would prove extremely prejudicial; while, in addition to this powerful influence, the indelicacy common to a rude state of society in manufacturing towns, the want of soap for the purpose of washing, and the want likewise of the periodical rests of a sabbath, to induce a change of apparel; all these causes, operating in conjunction, could not fail to give rise both to internal and external diseases.

From this epoch, therefore, of the human race may be dated the origin of diseases; which, by weakening individuals, and entailing on their offspring an hereditary disposition to infirmities, would extend the boundaries of morbid affection, and disseminate among the people distempers of various kinds.

It may well be supposed, that a people who had been accustomed to see men die only of unfortunate accidents, or the effects of old age, would be surprised at the novelty of diseases which terminated in the extinction of life. Entirely ignorant of physical causes, they would probably ascribe such extraordinary incidents to some supernatural power; and superstition giving birth to a thousand phantoms of the imagination, charms and enchantments became the means by which they endeavoured to cure, as well as prevent, every malady. In process of time, however, experience and the result of observation, the sole rational guide in the cure of diseases, began to have an influence on the public mind. A general similarity in the cases of different patients afforded presumption that they were affected by the same specific causes; and wherever accident discovered, or was imagined to discover, any virtue in herbs, which perhaps were first tasted in the manner of aliment, the precious remedy was held in veneration, and recommended to every person whose complaints had any resemblance to those in which it was supposed to have produced beneficial effects.

Such was the manner in which the use of medicine was first introduced; but many ages were required to bring to perfection a science which can be completed only by faithful observation and experience. The importance, however, of health, to the happiness of mankind, soon rendered the knowledge of curing diseases an object both of fame and emolument; and there arose, in different quarters of the globe, a number of practitioners, who devoted their attention solely to the cultivation of this abstruse and important subject. Among those who afterwards appeared in the capacity of professed physicians, the most illustrious was Hippocrates, a Greek, who is supposed to have flourished about four hundred years before the birth of Christ. This extraordinary man may be regarded as the first that ever attempted to erect the science of medicine upon a solid foundation. In the treatment of diseases, his chief object was to observe the progress of Nature with a scrupulous attention, and, according to the indications thence arising, to accommodate the method of cure. The numerous writings which he composed on medicine are extant at this day, and remain a monument of his penetration and judgment, as well as of unparalleled industry, and severe application to promote the advancement of medical knowledge.

But to tread in the footsteps of Hippocrates required a mind like his own. It was easier, as well as more expeditious, to prescribe fantastic and arbitrary laws to Nature, than to receive them from herself, and co-operate with them, as the great Hippocrates had done. In subsequent ages, therefore, it became a frequent custom among physicians to be governed in their practice by some visionary hypothesis or system, invented by their own imaginations, and so much unconnected with fact, as to be even utterly repugnant to the plainest dictates of observation and experience. Among those who adopted this extravagant plan, we find Erasistratus condemning in the strongest terms the use of bleeding and purgatives, as remedies equally infamous and dangerous.

Asclepiades, who pursued a similar predilection for hypothesis, supposing that health depends on the just proportion between the pores of the body and certain corpuscles which they are destined to transmit, and that it is impaired whenever these corpuscles are obstructed in their passage, prescribes exercise on horseback in the most violent fevers. He advances it as a maxim, that one fever is to be cured by raising another; and that the strength of the patient is to be exhausted by watching and the endurance of thirst. The practice of Asclepiades was strictly and severely conformable to his principles; for he would not allow his patients to cool their mouths with a drop of water during the two first days of the fever, but he indulged those who were phrenitic in the use of wine, even to intoxication.

Galen, who flourished five hundred years after Hippocrates, followed the plan of that celebrated ancient in the treatment of diseases, but differed essentially from him, by indulging in the most extravagant notions and idle disputations respecting medical theories. He introduced a false and baneful theory, concerning the primary qualities of hot and cold, dry and moist, which probably led him into dangerous errors in the composition of medicines. The reputation of Galen, however, continued for many ages to support the system which he invented, and his authority was almost as great in medicine as that of Aristotle in the schools of philosophy.

After the downfall of the Roman Empire, and when the inundation of Goths and Vandals had almost completely exterminated literature of every kind in Europe, medicine, though a practical art, shared the same fate with more abstract sciences. Learning, in general, banished from the seat of arms, took refuge among the eastern nations, where the arts of peace still continued to be cultivated. To the Arabian physicians, as they have been called, we are indebted both for the preservation of medical science, as it subsisted among the Greeks and Romans, and likewise for the description of some new diseases, particularly the small-pox. Though, for the most part, only copiers of the Greeks, they made, nevertheless, some improvements. They were the first who introduced chemical remedies, though of these they used but few. They added a great deal to Botany, and the Materia Medica, by the introduction of new drugs, chiefly of the aromatic kind, from the East, many of which are of considerable use; but Anatomy was not in the least improved by them.

With regard to their practice, in some few particulars they deviated from the Greeks. Their purging medicines were much milder than those formerly in use; and even when they did prescribe the purgatives of the more ancient physicians, they gave them in a much less dose than was usual in the Greek and Roman practice. The same may be said of their manner of bleeding, which was never to that excessive degree practised by the Greeks. They deviated from Hippocrates, however, in one very trivial circumstance, which produced a violent controversy. The question was, whether blood, in a pleurisy, ought to be drawn from the arm of the affected side, or the opposite? Hippocrates had directed it to be drawn from the arm of the affected side; but the Arabians, following some other ancient physicians, ordered it to be drawn from the opposite one. Such was the ignorance of a later age, that the university of Salamanca in Spain made a decree, that no person should dare to let blood but in the contrary arm; and they endeavoured to procure an edict from Charles V. to second it; alledging that the other method was of no less pernicious consequence to medicine than Luther's heresy had been to religion.

When, after many ages of darkness, which had destroyed almost the whole of ancient literature, learning was restored in the fifteenth century, it was the system of Galen alone that the physicians of those times became acquainted with, and during the century following the study of physicians was almost entirely employed in explaining and confirming that system. Early in the sixteenth century, Paracelsus had laid the foundation of a chemical system, which was in direct opposition to that of Galen; and by the efficacy of the medicines employed by himself and his followers his system came to be received by many: but the orthodox physicians continued to be chiefly Galenists, and kept possession of the schools till the middle of the seventeenth century.

Various revolutions in the theory of physic have since taken place, and each of them, while it subsisted, has been held in the highest esteem. One sect endeavoured to account for the phænomena of diseases upon the principles of mechanism; another maintained the general law of nature, respecting diseases, to be that of actual fermentation; a third, in explanation of morbid phænomena, asserted the universality of spasm; the great Boerhaave ascribed diseases to rigidity or laxity of the fibres, and acrimony or *lentor* of the fluids; and the reigning doctrine, at present is, on one hand, a *debility* of the fibres; and, on the other, a *susceptibility* of *excitement*.

It is to be regretted, that, in a science of so great importance to the world as that of physic, men should, in the ardour of forming systems, adopt, as the basis of their superstructure, opinions which have no foundation in the animal economy, and some of them even manifestly repugnant to fact and observation. A strong imagination may give, to almost any system, an air of great plausibility, which will render it current for a time; till some inquisitive genius, either dissatisfied with its foundation, or pregnant with a system of his own, shall powerfully exert his efforts, and produce a fresh revolution. It is indeed often extremely difficult to pronounce a positive opinion on the truth or fallacy of a system in physic. The only test by which to judge of it, is by an appeal to its UTILITY IN PRACTICE; yet the experiment is so liable to indecision, from various circumstances, that the result, unless confirmed by a number of trials, and indubitable testimony, must still be regarded as problematical. In an internal disease, the *causa proxima,* as it is called, is an invisible object, and can be judged of with certainty only by its effects. At the same time, it is probable that there are general laws of nature, which operate uniformly in the course of diseases, though, on account of various circumstances, they cannot be clearly ascertained.

Of all the transactions recorded in the history of physic, the most important is the discovery of the circulation of the blood, which will transmit the name of Harvey to the latest posterity. This single discovery has tended more to the improvement of medicine than all the hypothetical visionary systems that ever were invented.

Notwithstanding the fallacy of the various theoretical systems which have successively prevailed in medicine, the use of ratiocination, or just reasoning, in physic, is absolutely indispensable; and without it, the science would be nothing more than a mass of empiricism, or, at best, a system of vague, dubious, and unsupported conjecture. But, in order that the mode of reasoning employed may be of real utility, it must necessarily have its foundation in established and incontrovertible facts. It is such facts, and such reasoning, that constitute the essence of physiology, or the knowledge of the laws by which the animal economy is conducted. This knowledge, indeed, is only to be acquired by the study of the profession of physic, and must have for its basis a competent acquaintance with anatomy. But, without the advantage of such erudition, it is possible for a person of good understanding both to learn and practise the general rules of physic in the greater part of common diseases. Such a person may be sufficiently well qualified to observe the symptoms described in proper books of physic, and thence to acquire a probable opinion of the existence and state of a particular disease; though he may not be able to discriminate the operation of medicine from that of the malady, nor to trace the concatenation between cause and effect.

It is upon this principle that the present work is founded; and there is ground to expect that it will prove of no small advantage to the public. It will afford the means of determining, at an early period, the nature of a disease, and of applying the proper remedies accordingly, without loss of time. It apprises the reader of the cases in which there may be a necessity for calling in medical assistance; and even then it will have the effect of enabling him to form an opinion with what judgment and attention such assistance has been exercised. It will likewise be attended with the further advantage of directing a proper regimen, or course of diet, from the beginning of a disease—a due observance of which alone is often sufficient to extirpate the complaint; and, lastly, by pointing out the different remote causes of every disease, it will tend to guard against the operation of the specific cause that may appear to have given rise to it. In addition to all these advantages, it will have that of economy; by which in many, perhaps in most cases, not only to preclude the expenditure of medical fees, but to lessen greatly the charges of the necessary medicines. In a word, in every point of view, it may be regarded as a work of uncommon utility.

CHAP. III.

Of the Air or Atmosphere.

PREVIOUSLY to entering on the principal subject this work, it will be proper to take a general view of a variety of essential causes, which affect the human constitution, and, according to their nature and operation, conduce to health or disease. The first I shall mention is Air, that elastic, invisible fluid which every where surrounds our globe, and affords the means of respiration, so necessary to the support of life. When we consider the different qualities of this element, namely, its heat, cold, dryness, and moisture, with the extremes to which the two former are frequently carried, and the sudden changes they often experience, it will not appear surprising that the air should be the most powerful agent in nature on the bodies of animals.

The most obvious effect of warm air is to relax the solid parts of the body, and occasion a quicker circulation of the fluids. By this means, when too hot, it dissipates the watery parts of the blood, and gives the bile such a sharpness as not only produces great disorders in the bowels, but also fevers of a dangerous kind. It is also particularly injurious to persons of weak nerves, whom it affects with a variety of complaints. Cold air, by constringing the solids, and condensing the fluids, diminishes perspiration, and gives rise to many disorders immediately connected with that cause; such as rheumatisms, catarrhs, and coughs, with affections of the throat, and parts pertaining to respiration. Upon the whole, however, a cold state of the air, if not excessive, and long continued, is favourable to bodily vigour, especially in those who are accustomed to take brisk exercise; but to the infirm and inactive it is not equally salutary. Of all the different conditions of the air, that of moisture is universally the most productive of diseases, not only by destroying the elasticity of the solids, but by obstructing perspiration, and rendering the body still more relaxed by the humidity which insinuates itself into the pores from without. Hence this state of the air is apt to produce intermitting fevers, dropsies, and all the tribe of disorders that depend on a phlegmatic or debilitated constitution. But the most dangerous and fatal effects on the human body arise from a moist state of the air accompanied with heat; which, operating jointly, increase in a proportionable degree the laxity of the solids, and dispose to putrefactive diseases. On the other hand, the conjunction of dry and cool air is attended with salubrious effects; though a dry and very cold air, by thickening the blood, produces inflammatory disorders. Dry and hot air has the same inconveniences ascribed to heat alone; but a dry air, not too warm, is of all the most agreeable and healthful. Great and sudden changes from a warm to a cold air scarcely ever fail of producing a variety of complaints, which chiefly break forth in the bowels.

Winds, which are only strong currents of the air, have likewise sensible effects on the human constitution. A long continued north wind is comparatively the most wholesome; as it purifies the atmosphere of noxious vapours, renders the air serene and dry, and thus imparts to the body unusual vigour and activity; though to persons of delicate habits it proves both severe and injurious. An easterly wind is sometimes scarcely inferior in coldness to that of the north; but with this difference, that while the latter is in general salubrious, the former is directly the contrary. It is cold without bracing; and, instead of enlivening, seems to communicate to the spirits a sensible depression. To the asthmatic, and such as are disposed to intermitting fevers, it is particularly hurtful. The south wind, as blowing from the warmer regions, and frequently accompanied with a latent humidity, relaxes the body, and disposes to phlegmatic affections of the head and breast. The westerly wind is distinguished by no peculiar characteristic; but, passing in its course over the vast Atlantic ocean, it often brings with it a load of vapours, which afterwards descend in rain, especially on the western coasts of this country.

Besides the effects arising from the natural qualities of the air, there are others produced by contingent causes, which exert a more powerful influence on the body than the former, and generally of a hurtful kind. The atmospheric air is incessantly corrupted by the respiration of men and animals, and by the dissolution and putrefaction of innumerable substances. This is chiefly the case in great cities, where it is loaded with sulphur, smoke, and a variety of other exhalations, highly prejudicial to health. Nothing is more pernicious than the air of a place where a numerous body of people are collected together within doors; especially if to the breath of the crowd there be added the vapours of a multitude of candles, and the consumption of the vital air by fires in proportion. Hence it happens, that persons of a delicate constitution are liable to become sick or faint in a place of this kind. These ought to avoid, as much as possible, the air of great towns; which is also peculiarly hurtful to the asthmatic and consumptive, as it is likewise to hysteric women, and men of weak nerves. Where such people cannot always live without the verge of great towns, they ought, at least, to go abroad as often as they can into the open air, and, if possible, pass the night in the wholesomer situation of the suburbs.

Air that has long stagnated becomes extremely unwholesome to breathe, and often immediately fatal. Such is that of mines, wells, cellars, &c. People ought therefore to be very cautious in entering places of this description which have been long shut up. The air of some hospitals, jails, ships, &c. partakes of the same unwholesome and pernicious nature; and they ought never to be destitute of ventilators—those useful contrivances, for expelling foul, and introducing fresh air into its place. The same may be said of all places where numbers of people are crowded together. Nature, as well as art, has furnished the means of correcting air which has become unfit for respiration. Among the most powerful of these is the growth and vegetation of plants. For it is now found that air, rendered mortal by the breathing of animals that had expired in it, may be again so completely restored by the vegetation of plants, that, after an interval of some days, an animal may live in it with equal ease, and for the same length of time, as in a similar quantity of common air. But this observation holds not universally at all times. It is found that most plants have the property of correcting bad air within a few hours, when they are exposed to the light of the sun; but that, on the contrary, during the night, or in the shade, they corrupt the common air of the atmosphere. Hence it is a dangerous practice to have shrubs in an apartment that is slept in.

Both in public and private buildings there are errors committed, which affect in an extraordinary degree the salubrity of the air. Churches are seldom open above once a week; they are never ventilated by fires, and rarely by opening the windows: while, to render the air of them yet more unwholesome, little or no attention is paid to keeping them clean. The consequence of which is, that they are damp, musty, and apt to prove hurtful to people of weak constitutions; and it is a common remark, that a person cannot pass through a large church or cathedral, even in summer, without a strong sense of coolness.

The great attention paid to making houses close and warm, though apparently well adapted to the comfort of the inhabitants, is by no means favourable to health, unless care be taken every day to admit fresh air by the windows. Sometimes it may be proper to make use of what is called pumping the room, or moving the door backward and forward for some minutes together. The practice of making the beds early in the day, however it may suit convenience or delicacy, is doubtless improper. It would be much better to turn them down, and expose them to the influence of the air admitted by the windows.

For many persons to sleep in one room, as in the ward of an hospital, is hurtful to health; and it is scarcely a less injurious custom, though often practised by those who have splendid houses, for one or two to sleep in a small apartment, especially if it be very close. If a fire be kept in it, the danger is increased; and many have by that means been stifled in the night when asleep.

Houses situated in low marshy countries, or near lakes of stagnating water, are likewise unwholesome; as they partake of the putrid vapours exhaled in such places. To remedy this evil, those who inhabit them, if they study their health, ought to use a more generous diet than is requisite in more dry and elevated situations.

It is almost every where too common to have churchyards in the middle of populous towns. This is not only reprehensible in point of taste, but, considering how near to the surface of the earth the dead bodies in many places are deposited, there must necessarily arise putrid vapours, which, however imperceptible, cannot fail to contaminate the air. The practice of burying in churches is still more liable to censure; and not many years ago, the pernicious effects of this custom were so severely felt in France, as to occasion a positive edict against it.

In short, there is nothing in nature so pestilential and destructive as putrid air. Every possible means should be diligently used to prevent it; and where it has once taken place, the most active exertion is necessary to check or extinguish it. If the external air be pure and wholesome, the apartments of a house may generally be kept clear of noxious vapours, by having the windows open for some hours in the day; but in places crowded with inhabitants, and those dirty or diseased, or both, recourse should be had to more powerful means of purification; such as fumigating them with spirit of vitriol and nitre, or sprinkling them with acids, particularly vinegar. But of all preservatives from foul air, and consequently from putrid diseases, the most important is cleanliness, in the utmost extent, in persons, in clothes, in houses, and even in the public streets: for it is almost inconceivable what pestilential effects may follow a great neglect, or disregard of this salutary principle, which is not less important in a physical than a moral point of view.

To form a just opinion of the qualities and effects of air, it will be proper to take a short view of some principles with which the subject is connected.

For the better understanding this part of the subject, it may be proper to inform the reader of the external powers which chiefly act upon the human body, and by which it is influenced in respect both of health and disease—and to this purpose I shall have recourse to the observations made by the learned Dr. Garnett, in his ingenious lecture on the preservation of health.

The powers then which produce the living functions in our frame are chiefly heat, food, and air. Without inquiring into the property of living bodies which renders them susceptible of external influence, we shall content ourselves with giving it the name of *excitability*. When the excitability is in such a state as to be very susceptible of the action of external powers, it is said to be *abundant*, or *accumulated*; but when it is found not very capable of receiving their action, it is considered as *deficient* or *exhausted*.

The laws by which external powers act on living bodies are found to be the following:

First, when the action of the exciting powers ceases for some time, the excitability accumulates, or becomes more capable of receiving their action, and is more powerfully affected by them. Dr. Garnett illustrates this law by the following example, taken from the effect of light.

If a person be kept in darkness for some time, and be then brought into a room in which there is only an ordinary degree of light, it will be almost too oppressive for him, and appear excessively bright; and if he have been kept for a considerable time in a very dark place, the sensation will be very painful. In this case, while the retina, or optic nerve, was deprived of light, its excitability accumulated, or became more easily affected by light: for, if a person goes out of one room into another which has an equal degree of light, he will feel no effect. You may convince yourselves of this law by a very simple experiment. Shut your eyes, and cover them for a minute or two with your hand, and endeavour not to think of the light, or of what you are doing; then open them, and the day-light will for a short time appear brighter. If you look attentively at a window for about two minutes, and then cast your eyes upon a sheet of white paper, the shape of the window-frames will be perfectly visible upon the paper; those parts which express the wood-work appearing brighter than the other parts. The parts of the optic nerve on which the image of the frame falls are covered by the wood-work from the action of the light; the excitability of these portions of the nerve will therefore accumulate, and the parts of the paper which fall upon them, must of course appear brighter. If a person be brought out of a dark room where he has been confined, into a field covered with snow, when the sun shines, it has been known to affect him so much as to deprive him of sight altogether.

Let us next consider what happens with respect to heat. If heat be for some time abstracted, the excitability accumulates; or, in other words, if the body be for some time exposed to cold, it is more liable to be affected by heat, afterwards applied. Of this also you may be convinced by an easy experiment. Put one of your hands into cold water, and then put both into water which is considerably warm: the hand which has been in cold water will feel much warmer than the other. If you handle some snow with one hand, while you keep the other in your bosom, that it may be of the same heat as the body, and then bring both within the same distance of the fire, the heat will affect the cold hand infinitely more than the warm one. This is a circumstance of the utmost importance, and ought always to be carefully attended to. When a person has been exposed to a severe degree of cold for some time, he ought to be cautious how he comes near a fire: for his excitability will be so much accumulated, that the heat will act violently, often producing a great degree of inflammation, and even sometimes mortification. We may by the way observe, that this is a very common cause of chilblains, and other inflammations. When the hands, or any other parts of the body, have been exposed to violent cold, they ought first to be put into cold water, or even rubbed with the snow, and exposed to warmth in the gentlest manner possible.

Exactly the same takes place with respect to food. If a person have for some time been deprived of food, or have taken it in small quantity, whether it be meat or drink; or if he have taken it of a less stimulating quality, he will find, that when he returns to his ordinary mode of living, it will have more effect upon him than before he had lived abstemiously.

Persons who have been shut up in a coal-work, from the falling-in of the pit, and have had nothing to eat for two or three days, have been as much intoxicated by a bason of broth as a person in common circumstances with two or three bottles of wine; and we all know that spirituous or vinous liquors affect the head more in the morning than after dinner*.

All these facts, and many others which might be brought, establish beyond a doubt the truth of the law which has been mentioned, namely, that when the powerful action of the exciting powers ceases for some time, the excitability accumulates, or becomes more capable of receiving their actions.

The second law is, that when the exciting powers have acted with violence, or for a considerable time, the excitability becomes exhausted, or less fit to be acted on. This may be proved by a similar induction. Let us take the effects of light upon the eye. When it has acted violently for some time upon the optic nerve, it diminishes the excitability of that nerve, and renders it incapable of being affected by a quantity of light that would at other times affect it. When you have been walking out in the snow, if you come into your room, you will scarcely be able to see any thing for some minutes. Look steadfastly at a candle for a minute or two, and you will with difficulty discern the letters of a book, which you were before reading distinctly; and if you happen to cast your eyes upon the sun, you will not see any thing distinctly for some time afterwards.

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* This circumstance was particularly evident among the sailors who were in the boat with Captain Bligh after the mutiny. The captain was sent by government to convey some plants of the bread-fruit tree from Otaheite, to the West-Indies. Soon after he left Otaheite, the crew mutinied, and put the captain and most of the officers, with some of the men, on board the ship's boat, with a very short allowance of provisions, and particularly of liquors: for they had only six quarts of rum, and six bottles of wine, for nineteen persons, who were driven by storms about the South-sea, exposed to wet and cold all the time, for nearly a month. Each man was allowed only a tea-ſpoonful of rum a day; but this tea-spoonful refreshed the men, benumbed as they were with cold, and faint with hunger, more than twenty times the quantity would have done those who were warm and well fed; and had it not been for the spirit having much power to act upon men in their condition, they never could have outlived the hardships they experienced.

Let us next consider the matter of heat. Suppose water to be heated lukewarm, if you put one hand into it, it will feel warm. If you put the other hand into water, heated for instance to 120° or 130°, and keep it there some time, we will say, two minutes; if then you take it out, and put it into the lukewarm water, that water will feel cold, though still it will seem warm to the other hand; for the hand which had been in the heated water has had its excitability exhausted by the application of heat. Before you go into a warm bath, the temperature of the air may seem warm and agreeable to you; but after you have remained for some time in a bath that is rather hot, when you come out you feel the air uncommonly cool and chilling.

These facts, with innumerable others, which will readily suggest themselves, prove the truth of the second proposition, namely, that when the exciting powers have acted violently, or for a considerable time, the excitability is exhausted, or less fit to be acted on.

Upon the whole, there are, according to Dr. Garnett, three states in which living bodies exist: 1. A state of accumulated excitability. 2. A state of exhausted excitability. 3. When the excitability is in such a state as to produce the strongest and most healthy actions, when acted upon by the external powers. These leading principles are of great importance, in many cases, towards ascertaining more determinate rules of conduct relative to the prevention and cure of diseases.

Of the exciting powers which act upon the human frame, one of the principal is air—the source of heat and activity, without which our blood would soon become a black and stagnant mass, and the springs of life would stop. It is now known that only a part of atmospheric air is necessary for respiration. The atmosphere, near the surface of the earth, consists of two kinds of air; one, which is highly proper for respiration, and combustion, and in which an animal immersed will live much longer than in the same quantity of common air; and the other which is perfectly improper for supporting respiration, or combustion, for an instant.

The former of these airs has obtained the name of vital air, from its property of supporting life, and constitutes about one-fourth of the atmosphere. The other, from its property of destroying life, is called azote, and forms of course the remaining three-fourths of the atmosphere.

These two airs may be separated from each other by various methods. If a candle be inclosed in a given quantity of atmospheric air, it will burn only for a certain time, and then be extinguished; and from the rising of the water in the vessel in which it is inclosed, it is evident that a quantity of air has been absorbed. What has been absorbed is the vital air, and what remains the azote, which is incapable of supporting flame. If an animal be immersed in a given quantity of common air, it will live only a certain time, at the end of which the air will be found diminished, about one-fourth being extracted from it; and the remainder will neither support flame nor life.

Some metals, and particularly manganese, when exposed to the atmosphere, attract the vital air from it, without touching the azote: and it may be procured from these metals by the application of heat, in very great purity.

If we take three parts of azote, and one of vital air, we shall form a compound which is similar to the atmosphere, and which is the mixture best suited to support the health of the body. If there were a much greater proportion of vital air, it would act too powerfully upon the system, and bring on inflammatory diseases. It would likewise by its stimulus exhaust the excitability, and bring us sooner to death; and in the same manner that a candle burns brighter in vital air, and would therefore be sooner exhausted, so would the flame of life be sooner burnt out. On the contrary, if the atmosphere contained a much less proportion of vital air, it would not stimulate the body sufficiently: the excitability would morbidly accumulate, and diseases of debility would occur.

Combustion, putrefaction, and the breathing of animals, are processes which are continually diminishing the quantity of vital air contained in the atmosphere: and if the wise Author of Nature had not provided for its continual reproduction, the atmosphere would, in all probability, have long since become too impure to support life; but this is guarded against in a most beautiful manner.

Water is not a simple element, as has been supposed, but is composed of vital air, and a particular kind of air which is called *inflammable;* the same that is used to fill balloons. It has been found by experiment, that one hundred pounds of water are composed of eighty-five pounds of vital air, and fifteen of inflammable air*.

Water may be decompounded by a variety of means, and its component parts separated from each other.

Vegetables effect this decomposition. They absorb water, and decompose it in their glands; and, taking the inflammable air for their nourishment, breathe out the vital air in a state of very great purity.

The vital air is received by animals into their lungs, and communicates a red colour to their blood. When animals die for want of vital air, their blood is always found black.

From what has been said, it is evident, that in large and populous towns, where combustion and respiration are continually performed on a large scale, the air must be much less pure than in the country, where there are few of these causes to contaminate the atmosphere, and where vegetables are continually tending to render it more pure; and if it was not for the winds which agitate this element, and constantly occasion its change of place, the air of large towns would probably soon become unfit for respiration. Winds bring us the pure air of the country, and take away that from which the vital air has been in a great measure extracted; but still, from the immense quantity of fuel which is daily burnt, and the number of people breathing in large towns, the air very soon becomes impure.

Children particularly require a pure air. This fact is placed in the clearest light by the following instance. In the lying-in hospital at Dublin, 2944 infants, out of 7650, died in the year 1782, within the first fortnight after their birth, which is nearly every third child. They almost all died in convulsions: many of them foamed at the mouth, their thumbs were drawn into the palms of their hands, their jaws were locked, the face was swelled and looked blue, as if they were choked. This last circumstance led the physicians to conclude that the rooms in the hospital were too close, and hence, that the infants had not a sufficient quantity of good air to breathe: they therefore set about ventilating them better; which was done very completely. The consequence is, that not one child dies now where three used to die.

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* Strictly speaking, water is composed of the bases of these airs, the greatest part of the caloric being given out on their union.

Having considered the purity of the air, let us next take a view of the changes in the temperature which it undergoes, and the effects which these have upon the constitution.

We find the air sometimes considerably below the freezing point; nay, even so much as 20 or 30 degrees: it is then intensely cold; and, on the other hand, the thermometer sometimes indicates a great degree of heat: we then find ourselves much relaxed, and our constitutions exhausted.

To understand how this happens, let us consider for a moment the nature of heat and cold. Heat is one of those stimuli which act upon the excitability, and support life: for, if it was totally withdrawn, we should not be able to exist even a few minutes; and cold is only a diminution of heat. When heat is present, in a proper degree, or the atmosphere is about that degree of heat which we call temperate, it just gives such a stimulus, and keeps the excitability exhausted to such a degree, as to preserve the body in health: but if it continue for a considerable time to be much warmer than this temperature, the consequence must be, from the laws already laid down, an exhaustion of the excitability, and a consequent relaxation and debility. For when the excitability has been exhausted by the violent application of heat, long continued, the common stimulant powers which support life cannot produce a sufficient effect upon it, to give to the body that tone which is compatible with health. On the contrary, when the heat of the air falls below what we call temperate, or when cold is applied to the body, from the accustomed stimulus of heat being diminished, the excitability must accumulate, or become more liable to be affected by the action of the external powers.

This, however, very seldom produces bad effects, unless the exciting powers be improperly or quickly applied: for we can bear a considerable diminution of heat without any bad consequences; and, in all cases, much more mischief arises from the too great action of heat, than from the diminution of it.

People are afraid of going out into the cold air; but if they conduct themselves properly afterwards, they will never be in the least danger from it. Indeed the action of cold, unless it be excessive, never produces any bad effects upon people in health.

This remark may, to many, appear to be erroneous, but is nevertheless well founded. For if a person go out into air which is very cold, and remain in it for a very long time, he will never perceive any symptoms of what is called a cold so long as he remains there.

A common cold is attended with a running of the nose, hoarseness, and cough, with a considerable degree of feverish heat, and dryness of the skin. Now it is universally agreed, that this disorder is an inflammation, or is of an inflammatory nature: it is an inflammation of the smooth moist skin which lines the nostrils, and goes down the windpipe into the lungs: but as cold is only a diminution of heat, or a diminution of a stimulus acting upon the body, it is impossible that such a diminution can cause a greater action or excitement; we might as well expect to fill a vessel by taking water out of it. But let us see how a cold, as it is commonly called, is produced. When a person in cold weather goes out into the air, every time he draws in his breath, the cold air passes through his nostrils and windpipe into the lungs, and in thus diminishing the heat of the parts, allows their excitability to accumulate, and renders them more liable to be affected by the succeeding heat. So long as that person continues in the cold air, he feels no bad effects; but if he come into a warm room, he first perceives a glow within his nostrils and breast, as well as all over the surface of his body. Soon afterwards, a disagreeable dryness and huskiness will be felt in the nostrils and breast. By and by a short, dry, tickling cough comes on. He feels a shivering, which makes him draw nearer to the fire, but all to no purpose; the more he tries to heat himself, the more chill he becomes. All the mischief is here caused by the violent action of the heat on the accumulated excitability. For want of a knowledge of this law, these disagreeable, and often dangerous complaints are brought on, when they might be avoided with the greatest ease.

When a person comes out of a cold atmosphere, he should not at first go into a room that has a fire in it, or, if he cannot avoid that, he should keep for a considerable time at as great a distance from the fire as possible, that the accumulated excitability may be gradually exhausted, by the moderate and gentle action of heat;

and then he may bear the heat of the fire without any danger; but, above all, he ought to refrain from taking warm or strong liquors while he is cold. If a person have his hands or feet exposed to a very severe cold, the excitability of those parts will be so much accumulated, that if they should be brought suddenly near the fire, a violent inflammation, and even a mortification, will take place; which has often happened; or, at any rate, that inflammation called chilblains will be produced, from the violent action of the heat upon the accumulated excitability of those parts: but if a person so circumstanced was to put his hands or feet into cold water, very little warmer than the atmosphere to which he had been exposed, or rub them with snow, which is not often colder than 32 or 33 degrees, the morbid excitability will be gradually exhausted, and no bad consequences will ensue.

When a part of the body only has been exposed to the action of cold, and the rest kept heated; if, for instance, a person in a warm room sits so that a current of air coming through a broken pane should fall upon any part of the body, that part will be soon afflicted with an inflammation, which is usually called a rheumatic inflammation.

From what has been said, it will be easy to account for this circumstance. The excitability of the part is accumulated by the diminution of its heat: but at the same time the rest of the body and blood is warm; and this warm blood acting upon a part where the excitability is accumulated, will cause an inflammation; to which the more you apply heat, the worse you make it.—From these considerations we may lay it down as a fact, and experience supports us in so doing, that you may in general go out of warm into cold air without much danger; but that you can never return suddenly from the cold into the warm air with perfect impunity. Hence we may lay down the following rule, which, if strictly observed, would prevent the frequent colds we meet with in winter. *When the whole body, or any part of it, is chilled, bring it to its natural feeling and warmth by degrees.*

CHAP. IV.

Of Exercise.

IN vain will the air expand the lungs, and the heart propel the blood to the extremities of the body, if their efforts are not seconded by exercise, for the preservation of life and health. That man was intended for action, is from nothing more evident, than from a consideration of the necessity of exercise or labour, to guard him against weakness and disease. Such is the nature of the human constitution, that, without the assistance of these powerful agents, the solid parts must be deprived of their due elasticity, and the fluids become too thick for circulating through the various orders of vessels of which the body is composed. Hence digestion must be rendered imperfect; nourishment be proportionably defective; the different necessary secretions must proceed with a languid pace; and perspiration, that important function in our frame, be so much obstructed, that the most dangerous and fatal consequences must unavoidably ensue.

The salutary effects of exercise may be anticipated from what has been already said. It strengthens the solid parts, and promotes the circulation of the fluids beyond any thing else within the compass of nature. Weakness of the nerves, and obstructions of the glands, never fail to accompany a life that is passed in inactivity. What dreadful effects proceed from these two causes, it would be tedious to enumerate. There are very few diseases incident to mankind which inactivity may not produce; and where it has once fixed its residence it is extremely difficult to expel. It is not only of itself a plentiful source of diseases, but, when become habitual, is generally attended with watchfulness, which likewise has a pernicious effect on the health.

For preserving health there is no kind of exercise more proper than walking, as it gives the most general action to the muscles of the body; but for valetudinarians, and those who have weak bowels, riding on horseback is preferable. It is almost incredible how much the constitution may be strengthened by this exercise, when continued for a considerable time; not so much in the fashionable way of a morning ride, but of making long journeys, in which there is the farther advantage of a perpetual change of air. Numbers of people who were reduced to a state of great weakness have by this means acquired a degree of vigour and health which all the medical prescriptions in the world could not otherwise have procured. But it is of importance, in travelling for health, that one should not employ his mind in deep reflections, but enjoy the company of an agreeable companion, and gratify his sight with the prospect of the various objects around him. In this exercise, as well as in every other, we ought always to begin gently, and to finish gradually, never abruptly.

Exercise is hurtful immediately after meals, particularly to those of nervous and irritable constitutions, who are thence liable to the heart-burn, eructations, and even vomiting. Indeed the instinct of the inferior animals confirms the propriety of this rule: for they all are inclined to indulge themselves in rest after food. At all events, fatiguing exercise, after a full meal, should be delayed till digestion is performed, which generally requires three or four hours after eating.

Exercise may be divided into two kinds; namely, the active and the passive. Of the former kind is walking, running, leaping, riding, swimming, fencing, &c. Of the latter are, riding in a carriage, sailing, friction, &c.

The more active kinds of exereise are best adapted to youth, to those of a middle age, and particularly to the corpulent, and those whose evacuations are not in due proportion to the quantity of food and drink. The passive kinds of exercise, on the contrary, are better suited to infants, to persons far advanced in years, to the delicate and weak, and especially the asthmatic and consumptive.

To read during a walk is a custom improper in itself, and detrimental to the eyes, besides the danger it occasions of falling. This practice not only deprives a person of the principal advantage of a walk, but people thereby accustom themselves to an unsafe and ungraceful manner of carrying the body. It is productive of hurtful consequences to the eyes, because the focus is continually shifted, and the retina thus extremely fatigued.

Dancing, under proper limitations, is a wholesome exercise, especially in winter; but the more violent dances are frequently attended with pernicious effects. The exertion of so many muscles, and the quick inspiration of a warm atmosphere in a crowded assembly, excite such a rapid circulation of the blood, as is equal to that in the hot stage of a fever. When to this we add the improper use of liquors, which, if of a heating nature, increase the motion of the blood, or, if cooling, restrain it abruptly, we can no longer be surprised that spitting of blood and consumption of the lungs are often the consequence of such excesses.

Riding in carriages is an exercise conducive to health, as the gentle jolts which it affords promote the circulation of the blood; but to derive all the good effects from riding in a carriage, the body of it ought not to be too nicely suspended in the straps and springs, nor should the motion be too slow. One of the windows at least ought to be kept open, that the perspiration and breath of several persons inclosed may not too much vitiate the air*.

Of the passive kinds of exercise, sailing is the most efficacious. Those who are unaccustomed to it generally experience giddiness of the head, nausea, and vomiting; on which account it is beneficial to an impure stomach. To consumptive patients it is highly advantageous, if they have recourse to it before their disorder is too far advanced to be curable. At all times, however, if there be a spitting of blood, the motion of the vessel must necessarily prove injurious. On the other hand, the relaxed, the nervous, and particularly the hypochondriac, will find from this kind of exercise extraordinary benefit.

Reading aloud is a species of exercise much recommended by the ancient physicians; and to this may be joined that of speaking. They are both of great advantage to those who have not sufficient leisure or opportunities for other kinds of exercise. To speak very loud, however, or exercise the voice immediately after a meal, is hurtful to the lungs, as well as to the organs of digestion. Singing, as by the vibratory motion of the air it shakes the lungs and the bowels of the abdomen, or belly, promotes, in a remarkable degree, the circulation of the blood. Hence those sedentary artificers or mechanics, who, from habit, almost constantly sing at their work, unintentionally contribute much to the preservation of their health.

All wind-instruments are more or less hurtful to the lungs; which they weaken by introducing much air, and keeping that organ too long in a state of distension. On this account, persons of weak lungs, who play much on the flute, hautboy, or French-horn, are frequently afflicted with spitting of blood, cough, shortness of breath, and pulmonary consumption. Blowing those instruments likewise checks the circulation of the blood through the lungs, accumulates it towards the head, and disposes such musicians to apoplexy.

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* In bad weather invalids or other perſons may derive great benefit from the uſe of *the Chair of Health*, lately invented by Mr. Lowndes.

One of the most gentle and useful kinds of exercise is friction of the body, either by the naked hand, a piece of flannel, or what is still better, a flesh-brush. This was in great esteem among the ancients, and is so at present in the East Indies. The whole body may be subjected to this mild operation, but chiefly the belly, the spine, or backbone, and the arms and legs. Friction clears the skin, resolves stagnating humours, promotes perspiration, strengthens the fibres, and increases the warmth and energy of the whole body. In rheumatism, gout, palsy, and greensickness, it is an excellent remedy. To the sedentary, the hypocondriac, and persons troubled with indigestion, who have not leisure to take sufficient exercise, the daily friction of the belly in particular cannot be too much recommended as a substitute for other means, in order to dissolve the thick humours which may be forming in the bowels by stagnation, and to strengthen the vessels. But in rubbing the belly, the operation ought to be performed in a circular direction, as being most favourable to the course of the intestines, and their natural action. It should be performed in the morning, on an empty stomach, or rather in bed, before getting up, and continued at least for some minutes at a time.

Standing, though useful as a change after long sitting, is apt to occasion accumulations of blood, or the thinner parts of it, in the lower extremities. Swelled legs are, therefore, common among people of some occupations. It is a posture little calculated to relieve the sedentary; and the body is, at the same time, more fatigued by standing than sitting. The common way of sitting, with the head reclined, is extremely pernicious; for the circulation of the fluids in the belly is thus checked, the intestines are compressed, and the vessels of the breast contracted. The head also suffers by bending it too much forward, the blood being thus carried to it more copiously than is consistent with health. The pressure of the belly may, in a great measure, be prevented by high tables and desks, and by raised stools and chairs, upon which a person rather stands than sits.

CHAP. V.

Of Diet.

IT has already been seen, in the chapter on the Human Body, in how admirable a manner the all-wise and beneficent Creator has ordained that the body should be furnished with the aliment necessary for the support of life. What kind of food we shall use, whether of the animal or vegetable kingdom, in what quantity, and how prepared, he has graciously left at our own disposal; and happy were it for us that we submitted in all these respects to the laws of temperance and prudence.

On the quantity and quality of the food, and consequently the nourishment of the body, both health and life are dependant. In regulating the quantity, no determinate rules can be prescribed; as it is a point which involves the consideration of a number of circumstances; such as the age, sex, strength, size, and habit of different individuals. But in this, as in all other things, the golden rule of mediocrity is what ought to be observed; and though, in general, nature teaches every creature when it has enough, it is more safe to keep within the bounds of satiety than to transgress them. For what we are accustomed to take daily in ounces and pounds, cannot be a matter of indifference, in respect either of quantity or quality.

When we take food in too great quantity, or of too nourishing a quality, it will either produce inflammatory diseases, such as pleurisy; or, by exhausting the excitability, it will bring on stomach complaints, gout, and all the symptoms of premature old age. This follows so evidently from the laws which have been investigated, that it is scarcely necessary to say more on the subject.

The quality of food, abstracting from what is natural, depends either on accident or artifice. Thus provisions may be rendered unwholesome, either by bad seasons, which prevent the ripening of grain, or afterwards by involuntary damage: but unfortunately, of late years, the practice has become too common in this country, of hoarding them up till they spoil, for the purpose of enhancing the price; and the bad being afterwards mixed with the good, the whole, in its best condition, is only an adulterated mass; if not always disagreeable to the taste, at least pernicious to the health of the consumers. If ever the power of legislation ought to be exercised with severity, it is against the authors of such destructive rapine and fraud, who contribute largely to the diseases, the misery, and even the mortality of mankind. The corruption of animal food is, perhaps, yet more destructive than that of vegetables. All animal substances have a constant tendency to putrefaction; which, beyond a certain degree, is extremely injurious to health. In this class of unwholesome food must be included diseased cattle, and such as die of themselves, the flesh of which ought never to be eaten: but in many parts of the country this caution is not sufficiently regarded. Even the eating of those which die by accident cannot be wholesome, as the blood being mixed with the flesh must increase the tendency to putrefaction.

It may safely be assumed as a fact, that no animal can be wholesome which does not take sufficient exercise, and is even excluded from the fresh air. This is precisely the case with all our stalled cattle; which, under the two circumstances just now mentioned, are crammed with gross food. By this means, indeed, they increase in bulk; but in proportion as they become fat, their flesh is unwholesome; and the very smell of it, when brought to the table, is offensive to those who know the qualities of good meat.

Over-heating an animal, by driving it too fast, throws it, in effect, into a temporary fever, often even to a degree of madness; and if it be killed in this situation, the blood is so intimately mixed with the flesh, that it is impossible to separate them: whence the juices, which were corrupted by the previous ferment they sustained, are incapable of affording wholesome nourishment.

It is well known that the practice of filling the cellular membranes with air, or what is called *blowing* meat, is become very common among butchers. This abominable custom not only renders the meat unfit for keeping, but communicates to it a taint, no less loathsome in idea than unnatural, and may often be aggravated, for any thing we know to the contrary, by the worst of human effluvia.

A similar method is practised by butchers, of filling the cellular membranes of animals with blood. At the same time that this makes the meat seem fatter, it adds something to its weight, but has the double effect of rendering it unwholesome and unfit for keeping. If it be true that veal is most frequently spoilt in this way, it may partly be occasioned by carrying calves from a great distance to market; whence their tender flesh is liable to be bruised, and many of their vessels burst.

Exclusive of the quantity and quality of food, great attention is due to the kind of it, in particular constitutions and circumstances. Whatever may have been the common practice in the earlier ages of the world, when mankind lived in warm climates, and the earth spontaneously produced a variety of fruits in abundance, it is beyond a doubt that animal food, as well as vegetables, was intended by Providence for the subsistence of our species; and a mixture of the two, where neither of them disagrees with the constitution, is certainly the most proper. Animal food in general is more nourishing than vegetables; and when it is not salted, nor hardened by smoking, it is likewise more easy of digestion. On this account, it generally agrees best with delicate and weak constitutions. But a mixture of many kinds of meat at a meal is undoubtedly injurious to the health; both as variety of dishes may tempt to excess, and as a number of meats, very different in their texture, cannot be equally well digested in the same space of time; the consequence of which will be, that a part of the chyle will become rancid and unwholesome before the other is brought into a condition for passing into the lácteals; during which retention it will likewise become rancid in its turn. To eat of one dish only seems most conformable to nature, and is doubtless the means of procuring the most healthy fluids.

The mode of dressing meat has likewise an effect upon its utility and wholesomeness. Flesh that is boiled is deprived of its nourishing juice, as the gelatinous substance of the meat is extracted into the broth. The latter indeed contains the most nourishing part of it; but it is taken in a form that tends to relax the stomach, and thereby retard the process of digestion. In the mode of dressing meat by roasting, its juices are less wasted, and as a crust is soon formed on its surface, the stimulant particles are prevented from evaporating. Hence roasted meat seems likely to yield more nourishment than the same quantity of boiled meat. It would seem, however, that stewing is still better calculated to preserve the more substantial parts of animal food; for, being performed in a close vessel, the juices are neither extracted by water, nor made to evaporate by the heat.

As simplicity in food is the most agreeable to nature, there is reason to believe that the luxurious arts of cookery render many things unwholesome which in themselves are not so. All poignant sauces, and high seasoning, are incentives to intemperance, at the same time that they excite the digestive powers to an action too rapid and tumultuous. People in health require no excitement to the relish of good and wholesome meat; and to those in the opposite state the luxuries of the table are poison.

Though appetite for food be the most certain indication that nature requires a supply, yet the calls of appetite, especially when irregular, ought never to be indulged beyond a moderate extent. There are, in fact, three kinds of appetite, which differ from one another with respect to the causes whence they severally proceed. These are, First, the natural appetite, which is equally stimulated and satisfied with the most simple food as with the most palatable. Secondly, the artificial appetite, or that which is excited by liquors, stomachic elixirs, pickles, &c. and which only lasts during the operation of those stimulants. Thirdly, the habitual appetite, or that which arises from the custom of taking victuals at certain hours, and often without any real appetite. The true and healthy appetite alone can ascertain the quantity of aliment proper for the individual; but the other two appetites are liable to mislead in this indication, particularly the habitual appetite. The stomach being too much distended by frequent exertions, will not rest satisfied with the former quantity of food, bnt its avidity will increase with indulgence, and temperance alone can restore its natural elasticity. The more suddenly this expansion takes place, the greater is the violence with which the stomach is affected, and the more sensible likewise the relaxation thereby induced. Slow eating is the best preservative against such an effect; as the stomach in this case suffers a very gradual distention, and the food has sufficient time to be duly prepared by mastication, or chewing in the mouth. He who observes this simple rule will feel himself satisfied only after he has received a due proportion of aliment; while he who swallows his food too quickly, and before it is perfectly chewed, will be apt to imagine he has eaten enough, when the unmasticated provisions occasion a sense of pressure on the sides of the stomach.

A healthy appetite is also determined by the season, to the influence of which the stomach is exposed, in common with the other organs. Hence in summer, as heat, in general, relaxes the body, and dissipates the fluids, the stomach cannot digest the same quantity of food as in winter. Some, however, have the greatest appetite in the extreme heat of summer. The bile of such individuals is naturally of a watery consistence, and too sparingly secreted; a defect which is best remedied by heat. Those who take more exercise in winter than in summer can also digest more food. But as individuals leading a sedentary life usually suffer in winter from a bad state of digestion, owing to a want of exercise, they ought in that season to be more sparing of aliment.

Too little aliment weakens the body, and hastens the consumption of the living principle. After long fasting, the breath is fœtid; and the blood being thence rendered liable to putrefaction, the body becomes disposed to putrid fevers. When a person has suffered so much from extreme hunger, that his fluids are already in a putrescent state, much food ought not to be given him at once; for the stomach being contracted and feeble cannot digest it. He must be supported with liquid nourishment, in small quantities, and be treated in the manner of a patient in a putrid or nervous fever. Hence, no animal food of any kind, but vegetables of a mild acid nature, can alone be given with propriety.

With respect to the choice of aliment, those who abound with blood should be sparing in the use of what is highly nourishing, such as fat meat, strong ale, rich wines, and the like. Their diet ought to consist chiefly of the vegetable kind, and their drink to be water, cyder, perry, or small beer. People whose solids are weak and relaxed, should avoid every thing that is hard of digestion. A nourishing diet, and sufficient exercise in the open air, are what in point of health will most avail them. To use freely a nourishing diet, is improper for those who have a tendency to be fat. They ought likewise to be sparing in the use of malt liquors, and to take a good deal of exercise. Those, on the contrary, who are lean should follow an opposite course. Persons who are troubled with eructations or belchings from the stomach inclined to putrefaction ought to live chiefly on acid vegetables; while, on the other hand, people whose food is apt to become sour on the stomach should make the greater part of their diet consist of animal food. Persons afflicted with nervous complaints, or with the gout, ought to avoid all flatulent food, and whatever is hard of digestion;

besides that their diet should be spare, and of an opening nature. The age, constitution, and manner of life, are circumstances which merit attention in the choice of proper diet; and sedentary people should live more sparingly than those who are accustomed to much labour. People who are troubled with any complaint ought to avoid such aliments as have a tendency to increase it. Thus, such as are scorbutic ought not to indulge themselves much in salt provisions; while one who is troubled with the gravel should be cautious in using too much acid, or food of an astringent kind.

Though due attention should be paid to the general classes of food, according to the particular tendency of different constitutions, the diet ought not to be too uniform, at least for any considerable time. A person, by long accustoming himself to dine only on boiled chicken, one of the most tender kinds of food, will habituate his stomach to such a standard of action as to become incapable of digesting any thing stronger. Indeed this is an error not very liable to be often fallen into voluntarily: for people are generally inclined to a change of food; and the variety which nature has provided renders it sufficiently practicable.

The diet ought not only to be such as is best adapted to the constitution, but likewise to be taken at regular periods, for long fasting is hurtful in every stage of life. In young persons, it vitiates the fluids, as well as prevents the growth of the body. Nor is it much less injurious to those more advanced in life; as the humours, even in the most healthy state, have a constant tendency to acrimony; the prevention of which requires frequent supplies of fresh nourishment. Besides, long fasting is apt to produce wind in the stomach and bowels, and sometimes even giddiness, and faintness; though the strong and healthy suffer less from long fasting than the weak and delicate.

All great and sudden changes in diet are universally dangerous; particularly the transition from a rich and full diet to one that is low and sparing. When, therefore, a change becomes expedient, it ought always to be made by degrees.

The practice is not uncommon to eat a light breakfast, and a heavy supper: but the latter of these is hurtful; and where it is not practised, there will generally be found a disposition to make a more hearty breakfast.

It is a disputed point, whether a short sleep after dinner be not useful for promoting digestion; and in several countries the practice certainly is indulged with impunity, if not with evident advantage; besides that it seems to be consistent with the instinct of nature. It is, however, only among a certain class that the practice can be used with propriety; and whoever adopts it ought to confine the indulgence to a short sleep of a few minutes. For, if it be continued longer, there arises more loss, from the increase of insensible perspiration, than can be compensated by all the advantage supposed to accrue to digestion.

Those who use such a custom, which may be allowable to the aged and delicate, ought to place themselves in a reclining, not a horizontal posture; because in the latter situation the stomach presses upon a part of the intestines, and the blood is consequently impelled to the head.

In the general class of aliment an essential part is drink, the use of which is indispensible to the digestion of food; and there is almost as great a diversity among the kinds of beverage, as there is among those of solid food. Water however is the basis of most liquors; and on this account its quality is of great importance in diet. Passing originally for the most part through subterraneous channels, it is often impregnated with metals or minerals of a nature injurious to the constitution; and such impregnation may be known by the sensible qualities of the water. The best water is that which is pure, light, and without any particular colour, taste, or smell. Where water cannot be obtained pure from springs, wells, rivers, or lakes, care should be taken to deprive it of its pernicious qualities by boiling, and filtering, but most effectually by distillation. Any putrid substances in the water may be corrected by the addition of an acid. Thus, half an ounce of alum in powder will make twelve gallons of corrupted water pure and transparent in two hours, without imparting a sensible degree of astringency. Charcoal powder has also been found of great efficacy in checking the putrid tendency of water. To the same purpose vinegar and other strong acids are well adapted.

Whether water be used plain, or in the form of fermented liquors, a proper attention should always be had to its quality, as well as to that of those liquors, now so generally the common drink over a great part of the world. Fermented liquors, to prove advantageous to the health, ought not to be too strong; otherwise they hurt digestion, and weaken instead of strengthening the body; for when in that state, and drunk in large quantity, they inflame the blood, and dispose to a variety of diseases. A certain degree of strength, however, is necessary to adapt them to most constitutions in cold climates. For, if too weak, they produce wind in the bowels, and occasion flatulencies; or if become stale they turn sour on the stomach, and have a pernicious effect on digestion, as well as prove otherwise hurtful. If fermented liquors, made for sale, were faithfully prepared, as there is too much reason to believe they are not, and were kept to a proper age, they would, used with moderation, be a comfortable and wholesome beverage; but while they continue to be drunk under every circumstance opposite to salubrity, the effects they produce must be more injurious than beneficial to health.

Whatever kind of drink is used, it ought, as well as food, to be taken always in a just and moderate quantity. Sufficient drink, besides its use in digestion, prevents the blood from becoming too thick, and the smaller vessels from being obstructed. It likewise tends to mitigate any acrimony in the blood, and promotes the necessary secretions, such as the bile, and the gastric juice of the stomach.

Were we to be governed by the dictates of nature, we ought to drink only when solicited by thirst, and to desist when that was satisfied; but as many of our liquors stimulate the palate, this is seldom the case. Pure water is, on this account, an inestimable beverage, as it will not induce us to drink more than is necessary. The proportion of drink, however, ought in general to be greater than that of food; for the quantity of our fluids by far exceeds that of the solids, and consequently the waste of them must be more considerable. It is by some regarded as a general rule, that the quantity of liquid should be double that of the dry food; but this cannot be accurately observed, nor is it applicable in all cases. The season of the year, the state of the weather, and the nature of our food, with the greater or less degree of our exercise, all contribute to render the proportion of drink indeterminate. Thirst, however, is a more certain guide for its own gratification than hunger; and he who is accustomed to drink water only, will be in little danger of transgressing the proper measure, if he drink as often as the calls of nature demand. Persons of a phlegmatic constitution have both less inclination and occasion to drink than those of a warm temperament; while the laborious, or those who take much exercise, ought to drink more than the sedentary, and still more in summer than in winter.

To drink immediately before a meal is a practice not to be commended; because the stomach is thereby stretched, and rendered less fit for performing its office. Besides, the gastric juice is by this mean too much diluted; and digestion, of consequence, is much obstructed. To drink much during a meal is also liable to objection; the stomach being thus rendered incapable of receiving the due portion of aliment. In the hot weather of summer it is scarce possible to delay drinking till the dinner be finished, and it is less hurtful, if not more necessary, at this time, as the bile, which serves to prepare the chyle, then requires greater dilution. When the drink is water, a moderate quantity of wine may be used with advantage; but in those whose stomach and bowels are weak, the mixture of wine and malt-liquors is apt to produce flatulence; as likewise, indeed, does the mixture of malt-liquors and water.

Fresh meat is the most wholesome and nourishing. But to preserve these qualities, it ought to be dressed in such a manner as to remain tender and juicy. The flesh of tame animals is, upon the whole, preferable to game: for though the latter be in general more mellow and easier of digestion, it does not contain the sweet jelly and mild juices with which the former is commonly inpregnated.

Some vegetables are not so easily digested as even hard and tough animal substances; but the flesh of young animals, with a full proportion of wholesome vegetables, the sort which least disagrees with the stomach, is the diet most suitable to our frame. The flesh of cattle fattened in the stall is by no means so wholesome as that of animals suffered to go at large: for, using no motion, and their food being often of a bad kind, not to mention the putrid air of the places in which they are confined, their flesh is little adapted to afford salutary juices.

Fat, though more nourishing than lean, is not so easy of digestion. On this account it is proper to use with it a sufficient quantity of salt, which conduces greatly to dissolve the fat of meat, and render it more easy of digestion.

In summer, at which season the blood is much disposed to putrescency, it is adviseable to increase the proportion of vegetable food, and to make use of acids, such as vinegar, lemons, oranges, and the like, provided that they do not disagree with the stomach and bowels, which is the case in those constitutions where too much acid is generated in the stomach. This may frequently be known from feeling the sensation of hunger in a painful degree. In such constitutions cold provision as well as cold drink is often preferable to hot.

I shall now give a general account of the qualities of the different kinds of animal and vegetable food most commonly used in diet; first, of animal food.

Beef. When this is the flesh of a bullock of middle age it affords good and strong nourishment, and is peculiarly well adapted to those who labour, or take much exercise. It will often sit easy upon stomachs that can digest no other kind of food; and its fat is almost as easily digested as that of *veal.*

Veal is a proper food for persons recovering from an indisposition, and may even be given to febrile patients in a very weak state, but it affords less nourishment than the flesh of the same animal in a state of maturity. The fat of it is lighter than that of any other animal, and shows the least disposition to putrescency. *Veal* is a very suitable food in costive habits; but of all meat it is the least calculated for removing an acid from the stomach.

Mutton, from the age of four to six years, and fed on dry pasture, is an excellent meat. It is of a middle kind between the firmness of beef and the tenderness of veal. The lean part of mutton, however, is the most nourishing, and conducive to health; the fat being hard of digestion. The head of the sheep, especially when divested of the skin, is very tender; and the feet, on account of the jelly they contain, highly nutritive.

Lamb is not so nourishing as mutton; but it is light, and extremely suitable to delicate stomachs.

House-lamb, though much esteemed by many, possesses the bad qualities common to the flesh of all animals reared in an unnatural manner.

Pork affords rich and substantial nourishment; and its juices are wholesome when properly fed, and when the animal enjoys pure air and exercise. But the flesh of hogs reared in towns is both hard of digestion, and unwholesome. Pork is particularly improper for those who are liable to any foulness of the skin. It is almost proverbial, that a dram is good for promoting its digestion: but this is an erroneous notion; for though a dram may give a momentary stimulus to the coats of the stomach, it tends to harden the flesh; and of course to make it more indigestible.

Smoked-hams are a strong kind of meat, and rather fit for a relish than for diet. It is the quality of all salted meat that the fibres become rigid, and therefore more difficult of digestion; and when to this is added smoking, the heat of the chimney occasions the salt to concentrate, and the fat between the muscles to become rancid.

Bacon is also of an indigestible quality, and is apt to turn rancid on weak stomachs.

The flesh of *goats* is hard and indigestible; but that of kids is tender, as well as delicious, and affords good nourishment.

Venison, or the flesh of *deer*, and that of *hares*, is of a nourishing quality, but is liable to one inconvenience; which is, that though much disposed to putrescency of itself, it must be kept for a little time before it becomes tender.

The *blood* of animals is used as aliment by the common people; but they could not long subsist upon it unless mixed with oatmeal, &c.: for it is not soluble alone by the digestive powers of the human stomach, and therefore cannot prove nourishing.

Milk is of very different consistence in different animals; but that of cows being the kind used in diet, is at present the object of our attention. Milk, where it agrees with the stomach, affords excellent nourishment for those who are weak, and cannot digest other aliments. Though an animal production, it does not readily become putrid, as being possessed of the properties of vegetable aliment; but it is apt to become sour on the stomach, and thence to produce flatulence, the heart-burn, or gripes, and, in some constitutions, a looseness. The best milk is from a cow at three or four years of age, about two months after producing a calf. It is lighter, but more watery, than the milk of sheep and goats; while, on the other hand, it is more thick and heavy than the milk of asses and mares, which are the next in consistence to human milk.

On account of the acid which is generated after digestion, milk coagulates in all stomachs: but the caseous or cheesy part is again dissolved by the digestive juices, and rendered fit for the purpose of nutrition. It is, however, improper to eat acid substances with milk, as these would tend to prevent the due digestion of it.

Cream is very nourishing, but, on account of its fatness, is difficult to be digested in weak stomachs. Violent exercise, after eating it, will in a little time convert it into butter.

Some writers inveigh against the use of *Butter* as universally pernicious; but they might with equal reason condemn all vegetable oils, which form a considerable part of diet in the southern climates, and seem to have been beneficently intended by nature for that purpose. Butter, like every other oily substance, has doubtless a relaxing quality, and, if long retained in the stomach, is liable to become rancid; but, if eaten in moderation, it will not produce those effects in any hurtful degree. It is however improper in bilious constitutions. The worst consequence produced by butter, when eaten with bread, is, that it obstructs the discharge of the saliva in the act of mastication or chewing; by which means the food is not so readily digested. To obviate this effect, it would be a commendable practice at breakfast, first to eat some dry bread, and chew it well, till the salivary glands were exhausted, and afterwards to eat it with butter. By these means such a quantity of saliva might be carried into the stomach as would be sufficient for the purpose of digestion.

Cheese is likewise reprobated by many as extremely unwholesome. It is doubtless not easy of digestion; and, when eaten in a great quantity, may load the stomach; but if taken sparingly, its tenacity may be dissolved by the digestive juices, and it may yield a wholesome, though not very nourishing chyle. Toasted cheese is agreeable to most palates, but is rendered more indigestible by that process.

The flesh of *Birds* differs in quality according to the food on which they live. Such as feed upon grain and berries afford, in general, good nourishment, if we except *geese* and *ducks,* which are hard of digestion, especially the former. A young *hen* or chicken is tender and delicate food, and extremely well adapted where the digestive powers are weak. But of all tame fowls, the *capon* is the most nutritious.

Turkeys, as well as Guinea or India fowls, afford a substantial aliment, but are not so easy of digestion as the common domestic fowls. In all birds those parts are the most firm, which are most exercised: in the small birds, therefore, the wings, and in the larger kinds the legs, are commonly the most difficult of digestion.

The flesh of *wild birds,* in general, though more easily digested, is less nourishing than that of quadrupeds, as being nore dry, on account of their almost constant exercise. Those birds are not wholesome which subsist upon worms, nsects, and fishes.

Eggs. In the last class of terrestrial animal food we may ank the eggs of birds, which are a simple and wholesome alinent. Those of the turkey are superior in all the qualifiations of food. The white of eggs is dissolved in a warm emperature, but by much heat it is rendered tough and hard. The yolk contains much oil, and is highly nourishng, but has a strong tendency to putrefaction; on which account eggs are improper for people of weak stomachs, especially when they are not quite fresh. Eggs hard boiled or fried are difficult of digestion, and are rendered still more ndigestible by the addition of butter. All eggs require a sufficient quantity of salt, to promote their solution in the stomach

Fish, though some of them be light, and easy of digestion, afford less nourishment than vegetables or the flesh of quadrupeds, and are of all the animal tribes the most disposed to putrefaction. Salt water fish are, in general, the best; but when salted, though less disposed to putrescency, they become more difficult of digestion. Whitings and lounders are the most easily digested. Acid sauces and pickles, by resisting putrefaction, are a proper addition to ish, both as they retard putrescency, and correct the relaxng tendency of butter, so generally used with this kind of aliment.

Oysters are eaten both raw and dressed; but in the former tate they are preferable: because heat dissipates considerably their nutritious parts, as well as the salt water, which promotes their digestion in the stomach: if not eaten very sparingly, they generally prove laxative.

Muscles are far inferior to oysters, both in point of digesion and nutriment. Sea muscles are by some supposed to be of a poisonous nature; but though this opinion is not nuch countenanced by experience, the safest way is to eat hem with vinegar, or some other vegetable acid.

Bread. At the head of the vegetable class stands bread, hat article of diet which, from general use, has received he name of *the staff of life.* Wheat is the grain chiefly used for he purpose in this country, and is among the most nutriive of all the farinaceous kinds, as it contains a great deal f mucilage. Bread is very properly eaten with animal food, o correct the disposition to putrescency; but is most expedient with such articles in diet as contain much nourishment in a small bulk, because it then serves to give the stomach a proper degree of expansion. But as it produces a slimy chyle, and disposes to costiveness, it ought not to be eaten in a large quantity. To render bread easy of digestion, it ought to be well fermented and baked; and it never should be used till it has stood twenty-four hours after being taken out of the oven, otherwise it is apt to occasion various complaints in those who have weak bowels; such as flatulence, the heart-burn, watchfulness, and the like. The custom of eating butter with bread hot from the oven is compatible only with strong digestive powers.

Pastry, especially when hot, has all the disadvantages of hot bread and butter; and even buttered toast, though the bread be stale, is scarcely inferior in its effects on a weak stomach. Dry toast with butter is by far the wholesomest breakfast. Brown wheaten bread in which there is a good deal of rye, though not so nourishing as that made of fine flour, is both palatable and wholesome, but apt to become sour on weak stomachs, and to produce all the effects of acidity.

Oats, when deprived of the husk, and particularly *barley,* when properly prepared, are each of them softening, and afford wholesome and cooling nourishment. *Rice* likewise contains a nutritious mucilage, and is less used in this country than it deserves, both on account of its wholesomeness and economical utility. The notion of its being hurtful to the sight is a vulgar error. In some constitutions it tends to make them costive; but this seems to be owing chiefly to flatulence, and may be corrected by the addition of some spice, such as carraway, anise seed, and the like.

Potatoes are an agreeable and wholesome food, and yield as much nourishment as any of the roots used in diet. The farinaceous or mealy kind is in general the most easy of digestion; and they are much improved by being roasted.

Green pease, and *Turkey beans,* boiled in their fresh state, are both agreeable to the taste, and wholesome; being neither near so flatulent, nor difficult of digestion, as in their ripe state; in which they resemble the other leguminous vegetables. *French beans* possess much the same qualities; but yield a more watery juice, and have a greater disposition to produce flatulence. The leguminous vegetables in general ought to be eaten with some spice.

Salads, being eaten raw, require good digestive powers.

especially those of the cooling kind; and the addition of oil and vinegar, though qualified with mustard, hardly renders the free use of them consistent with a weak stomach.

Spinage affords a soft lubricating aliment, but contains little nourishment. In weak stomachs it is apt to produce acidity, and frequently a looseness. To obviate these effects, it ought always to be well beaten, and but little butter mixed with it.

Asparagus is a nourishing article in diet, and promotes urine; but, in common with the vegetable class, dispôses a ittle to flatulence.

Artichokes resemble asparagus in their qualities, but seem o be more nutritive, and less diuretic.

White cabbage is one of the most conspicuous plants in he garden. It does not afford much nourishment, but is an greeable addition to animal food, and not quite so flatulent s the common greens. It is likewise diuretic, and somewhat laxative. Cabbage has a stronger tendency to putreaction than most other vegetable substances; and, during heir putrefying state, sends forth an offensive smell, much esembling that of putrefying animal bodies. So far, howver, from promoting a putrid disposition in the human ody, it is, on the contrary, a wholesome aliment in the true utrid scurvy.

Turnips are a nutritious article of vegetable food, but not ery easy of digestion, and are flatulent. This effect is in a ood measure obviated by pressing the water out of them efore they are eaten.

Carrots contain a considerable quantity of nutritious juice, ut are among the most flatulent of vegetable productions.

Parsnips are more nourishing, and less flatulent than carts, which they also exceed in the sweetness of their mucige. By boiling them in two different waters, they are ndered less flatulent, but their other qualities are thereby minished in proportion.

Parsley is of a stimulating and aromatic nature, well callated to make agreeable sauces. It is also a gentle diure, but preferable in all its qualities when boiled.

Celery affords a root both wholesome and fragrant, but is ficult of digestion in its raw state. It gives an agreeable te to soups, as well as renders them diuretic.

Onions, garlic, and *shallot,* are all of a stimulating nature, which they assist digestion, dissolve slimy humours, and expel flatulency. They are, however, most suitable to persons of a cold and phlegmatic constitution.

Radishes of all kinds, particularly the horse radish, agree with the three preceding articles in powerfully dissolving slimy humours. They excite the discharge of air lodged in the intestines; but this proceeds from the expulsion of the air contained in themselves.

Apples are a wholesome vegetable aliment, and in many cases medicinal, particularly in diseases of the breast and complaints arising from phlegm. But, in general, they agree best with the stomach when eaten either roasted or boiled. The more aromatic kinds of apples are the fittest for eating raw.

Pears resemble much in their effects the sweet kind of apples, but have more of a laxative quality, and a greater tendency to flatulence.

Cherries are in general a wholesome fruit, when they agree with the stomach, and they are beneficial in many diseases, especially those of the putrid kind.

Plums are nourishing, and have besides an attenuating, as well as a laxative, quality, but are apt to produce flatulence. If eaten fresh, and before they are quite ripe, especially in large quantities, they occasion colics and other complaints of the bowels.

Peaches are not of a very nourishing quality, but they abound in juice, and are serviceable in bilious complaints.

Apricots are more pulpy than peaches, but are apt to ferment, and produce acidities in weak stomachs. Where they do not disagree they are cooling, and tend likewise to correct a disposition to putrescency.

Gooseberries as well as *currants* when ripe are similar in their qualities to *cherries*, and when used in a green state they are agreeably cooling.

Strawberries are an agreeable, cooling aliment, and are accounted good against the gravel.

Cucumbers are cooling, and agreeable to the palate in hot weather; but to prevent them from proving hurtful to the stomach the juice ought to be squeezed out after they are sliced, and vinegar, pepper, and salt, afterwards added.

Tea. By some the use of this exotic is condemned in terms the most vehement and unqualified, while others have either asserted its innocence, or gone so far as to ascribe to it salubrious, and even extraordinary virtues. The truth seems to lie between these extremes: there is however an essential difference in the effects of green tea and of black, or bohea; the former of which is much more apt to affect the nerves of the stomach than the latter, especially when drunk without cream and likewise without bread and butter. That when taken in a large quantity, or at a later hour than usual, it often produces watchfulness, is a point which cannot be denied; but if used in moderation, and accompanied with the addition just now mentioned, it does not sensibly discover any hurtful effects, but greatly relieves an oppression of the stomach, and abates a pain of the head. It ought always to be made of a moderate degree of strength: for if too weak it certainly relaxes the stomach. As it has an astringent taste, which seems not very consistent with a relaxing power, there is ground for ascribing this effect not so much to the herb itself as to the hot water, which not being impregnated with a sufficient quantity of tea to correct its own emollient tendency, produces a relaxation unjustly imputed to some noxious quality of the plant. But tea, like every other commodity, is liable to damage, and when this happens it may produce effects not necessarily connected with its original qualities.

Coffee. It is allowed that coffee promotes digestion, and exhilarates the animal spirits; besides which various other qualities are ascribed to it, such as dispelling flatuleney, removing dizziness of the head, attenuating viscid humours, ncreasing the circulation of the blood, and consequently perspiration; but if drunk too strong it affects the nerves, casions watchfulness, and tremor of the hands; though in some phlegmatic constitutions it is apt to produce sleep. ndeed it is to persons of that habit that coffee is well ac-ommodated: for to people of a thin and dry habit of body seems to be injurious. Turkey coffee is greatly preferable n flavour to that of the West Indies. Drunk only in the uantity of one dish after dinner to promote digestion, it nswers best without either sugar or milk; but if taken at ther times it should have both, or in place of the latter rather cream, which not only improves the beverage but tends to mitigate the effect of coffee upon the nerves.

Chocolate is a nutritive and wholesome composition if ken in small quantity, and not repeated too often; but generally hurtful to the stomach of those with whom a egetable diet disagrees. By the addition of vanilla and other ingredients it is made too heating, and so much affects particular constitutions as to excite nervous symptoms, especially complaints of the head.

CHAP. VI.

Of the Passions.

NOTWITHSTANDING the universal condemnation of the passions by the stoical sect of philosophers, they are a natural and necessary part of the human constitution, and were implanted in it by the Great Creator for wise and useful purposes. Indeed without them we could have no motive to action, the mind must become utterly torpid; and there being then no foundation for morality or religion, virtue and vice would be nothing more than indiscriminate and unintelligible terms. The passions are only prejudicial when allowed to exceed their proper bounds; and to preserve them within these limits, we are furnished not only with reason and the light of nature but likewise that of revelation.

From the intimate though mysterious connection between the mind and body, they reciprocally affect each other, and thence the passions exert a powerful influence both in the production and cure of diseases. The two great sources of the passions respectively are desire and aversion; those of the former class tending in general to excite, and the others to depress, the powers of the animal system. The chief passions which arise from desire are joy, hope, and love; and the most eminent in the train of aversion are fear, grief, and anger.

Joy is a passion in which the mind feels a sudden and extraordinary pleasure; the eyes sparkle, a flood of animation overspreads the countenance, the action of the heart and arteries is increased, and the circulation of the blood becomes vigorous. Instances are not wanting where this passion when unexpectedly excited and violent has produced immediate death; but if moderate, and existing only in the form of cheerfulness, it has a beneficial effect in preserving health, as well as in the cure of diseases.

Of all the passions hope is the mildest; and though it operates without any commotion of the mind or any visible symptom in the body, it has a most powerful influence on the health of one and the serenity of the other: it contributes indeed so much to the welfare of both, that if it were extinguished we could neither enjoy any pleasure in this life nor any prospect of happiness in the life to come; but by the beneficent will of Providence it is the last of the passions that forsakes us.

Love is one of the strongest passions with which the mind is affected, and has at its commencement a favourable influence on the functions of the body; but being often in its progress attended with other passions, such as fear and jealousy, it is liable to become the source of infinite disquietude: no passion undermines the constitution so insidiously as this; for, while the whole soul is occupied with the thoughts of a pleasing attachment, both the mind and body become languid from the continuance of vehement desire; and should there arise any prospect real or imaginary of being frustrated in its pursuit, the person is agitated with all the horrors and pernicious effects of despair. Love when violent and unsuccessful frequently produces a wasting of the flesh, called nervous consumption, which terminates in death.

Fear has its origin in the apprehension of danger or evil, and is placed as it were a sentinel for the purpose of self-preservation: it retards the motion of the blood, obstructs respiration, and when in a moderate degree relaxes the body; but if it rise to the height of terror it puts all the springs of life into disordered action, and produces the most violent efforts in every muscle of the body. By weakening the energy of the heart this passion disposes greatly to infection during the prevalence of contagious diseases: in some instances it has produced palsy, loss of speech, epilepsy, and even madness.

There is no passion more destructive than grief when it sinks deep into the mind: by enfeebling the whole nervous system it depresses the motion of the heart, and retards the circulation of the blood with that of all the other fluids; it commonly debilitates both the stomach and bowels, producing indigestion, obstructions, obstinate watchfulness, and disposing to every disease that may arise from extreme relaxation; it preys upon the mind as well as the body, and is nourished by indulgence to the utmost degree of excess: during the violence of its earlier period it spurns at all the consolations either of philosophy or religion; but if life can subsist till the passion be alleviated by time, and submit to the cheering influence of company, exercise, and amusement, there is a prospect of recovery; though grief long continued often gives a shock to the constitution in a manner that nothing can retrieve.

Anger is a passion suddenly excited, and which often no less suddenly subsides. Equally furious and ungovernable in its nature, it may justly be considered as a transient fit of madness. The face, for the most part, becomes red, the eyes sparkle with fury, an outrageous commotion is visible in the countenance, and pervades the whole body. The animal spirits flow with rapidity, the pulsation of the heart and arteries, and with them the motion of the blood, are sometimes so much increased as to occasion the bursting of vessels. This passion being most frequent among persons of a choleric temperament, it is particularly hurtful to the liver and its ducts, which it seems to affect with spasmodic and irregular agitations, sometimes productive of the jaundice. But it operates likewise towards the production of fevers, inflammations, spitting of blood, apoplexy, and other disorders. As anger is liable to be spent by its own violence, it is commonly of short duration; but when existing in a more moderate degree, and combined with sadness or regret, it gives rise to fretting, which is extremely pernicious to the health. A person ought never to eat or drink immediately after a violent fit of anger; and those who are constitutionally exposed to its influence should make every effort to restrain such an odious ebullition of the temper. Some have supposed that in a violent fit of anger the saliva possesses a slightly poisonous quality; but perhaps this opinion is founded more on analogy and conjecture than on real and accurate observation.

From the general view that has been taken of the principal passions, it appears that there are two of them which have a particular claim to the attention of the medical faculty. These are hope and fear. By encouraging the former, and obviating the disposition to the latter, the most important assistance may be given in the treatment of many diseases not otherwise curable. In the whole compass of medicine there is not a more enlivening and salutary cordial than the passion of hope, nor any which can be compared to it in point of permanent operation.

It is natural to persons who have any dangerous complaint to entertain fear and anxiety with respect to its termination. Such a state of mind never fails to aggravate any disorder; and the physician ought to exert himself all in his power to counteract the effects of the passion; for nothing can prove effectual for removing the disease, if baneful despondency supports it.

CHAP. VII.

Of Sleep.

SUCH is the general constitution of animal bodies, that with all the aid of aliment they cannot long subsist unless refreshed by the natural vicissitudes of waking and sleep. These periodical changes in the state of our existence are as necessary to health and life as the alternate returns of day and night to the regularity of the solar system. In what proportion they ought to divide our time, is a question worthy of consideration; and for this purpose it is proper to ascertain the end for which mankind was created. Both reason and scripture assure us that we are placed here in a state of probation, to exercise our natural faculties according to the laws of morality; and, by improving ourselves in habits of virtue, to be rendered fit for the enjoyment of a nobler and eternal state of existence.

Such being the case, it follows, that the proper cultivation of the mind ought always to be our principal object; and as this duty can be performed only when awake, we may justly conclude that the smallest portion of our time should be devoted to the repose of the bed. In this, however, we are left entirely to be guided by our own discretion; but it happens fortunately, that the dictates of reason coincide with the best physical rules for the preservation of health. In most constitutions, six hours will be found a sufficient time for the indulgence of sleep; and if proracted beyond eight it proves rather injurious than beneficial; though in respect of children a greater latitude is allowed.

The proper time for the periodical return of sleep is pointed out by nature herself, when the light of the day gives place to night, and when those who have laboured rom the morning stand in need of repose. I would not, however, be understood to fix the commencement of sleep precisely to the approach of darkness, since in winter, unless or those who intend to rise early, such a practice would lead to the prolongation of sleep beyond the period which has been mentioned as the most salutary; besides that this would interfere with the innocent gratifications of society, than which nothing is more agreeable, or more beneficial to health.

To secure sound sleep, the best expedient is to take sufficient exercise in the open air, to eat no heavy supper, and to lie down in bed in perfect tranquillity of mind, and without the attention being fixed on any subject connected with abstruse inquiry. It ought likewise to be observed, that a person should not go to bed till an hour and a half after supper.

It is a general opinion that sleep is most refreshing in the fore part of the night; but perhaps this notion arose originally from a presumption, that the person who goes to bed at a moderate hour will of course rise sooner in the morning. It is certain, however, that the hour of going to bed ought not to be so late as to protract the time of waking till the morning is far advanced: for the custom of early rising is extremely conducive to health.

When the muscles are fatigued by the labours or exercise of the day, and the senses have for some time been active, we stand in need of the vicissitude of rest, particularly that of sleep, which is as it were a periodical suspension of our existence; and the ordinance of this expedient, so necessary for the support of animal life, is one of the wonders that excite our admiration in surveying the works of the Creator. During a sound sleep, the senses, and the voluntary muscular motions, are not exercised; but the vital functions, such as respiration, and the circulation of the blood, as well as digestion, and the other natural functions, are regularly though more slowly performed. While we are asleep, the motion of the heart and the blood vessels, even the action of the brain and the nervous system, as likewise the peculiar motion of the stomach and intestines, and the secretion of the fluids, are performed in an uniform and steady manner. Previous to sleep, we perceive a languor of the senses, of the muscles which are subject to our will, and of those also which keep the body in an erect posture. The head inclines downwards, the upper eye-lid and the lower jaw-bone likewise sink; the blood in the veins accumulates towards the heart, and compels us to yawn, in order to facilitate the transition of the blood into the lungs by the deep breathing. The brain itself, as the organ of the mind, appears to be fatigued: hence our ideas become irregular, and there arises a slight imbecility of the understanding. That the motions of the heart are stronger during sleep, and that perspiration is more abundant, must be ascribed to the warmth of the bed-clothes, by which the insensible perspiration softens and relaxes the skin.

As the senses are inactive during sleep; as the nervous energy is less expended, and its secretion continued, a new supply of it is collected, and the organs of sense, as well as the muscles, receive additional vigour. This occasions us to awake, particularly if roused by any stimulus. While we are asleep, the nutritive particles of the blood can more easily attach themselves to the fibres, and fat also is more easily generated, from the slower circulation of the blood. After we have slept sufficiently, we are apt on awaking to stretch the limbs and joints, and sometimes to yawn; the former of these to restore the equilibrium of the muscles, which had been affected during sleep; and the latter from an instinctive desire of promoting the circulation of the blood through the lungs, which was retarded during sleep. Such is the process of nature in conducting the transition from waking to sleep and back again, and thence restoring both the body and mind to the grateful vicissitudes of sense and action.

To explain one remarkable phenomenon, which frequently occurs during sleep, namely, that of dreams, is a subject which has exercised the ingenuity of many physiological inquirers. These sportive fancies are evidently vagaries of the imagination, and take place only when our sleep is unsound. We seldom dream during the first hours of sleep; perhaps because the nervous fluid is then too much exhausted: but dreams mostly occur towards the morning, when this fluid has been in some measure restored. Every thing capable of interrupting the tranquillity of the mind or body may produce dreams. Such are affections, passions, and exertions of the mind, crude and undigested food, &c. Those ideas which have lately occupied our mind, or made a lively impression upon us, generally constitute the principal subject of a dream, and more or less employ our imagination when we are asleep. Dreams are, as it were, a middle state between sleeping and waking; and when accompanied with startings, abrupt and incoherent speeches, and a frequent change of posture, they are often either the effect or the forerunner of some indisposition. In general, however, they proceed from the irritation of the stomach, or intestinal canal. Sleep without dreams, of whatever kind they be, is more healthful than when attended with these fancies. Yet dreams of an agreeable kind promote the free circulation of the blood, the digestion of the food, and a due state of perspiration.

To continue awake beyond a proper time consumes the vital spirits, hurts the nerves, and causes many uneasy sensations. The fluids of the body become more acrid or sharp, the fat is consumed, and there comes on at length a tendency to giddiness, head-ach, and anxiety. Those who indulge themselves in much sleep are seldom liable to very strong passions. Excess of sleep, however, is prejudicial. The body sinks gradually into a complete state of inactivity, the solid parts become relaxed, the blood circulates slowly, and remains particularly long in the head. Perspiration is disordered, the body increases in fat and thick humours, the memory is enfeebled, and the person falls into such a state that his sensibility is in a great measure destroyed.

CHAP. VIII.

Of Intemperance.

TEMPERANCE being one of the cardinal virtues, the character of its opposite must be vice; and there is no vice of a sensual nature that is not prejudicial to health. Such is the effect of intemperance, that it disorders the whole animal economy. It relaxes the nerves, greatly injures digestion, renders all the secretions irregular; and, thence vitiating all the fluids, gives rise to various diseases.

To explain at length the effects of intemperance on the body, would comprise an account of almost every disease to which mankind is liable. It is therefore sufficient to observe in general, that this odious vice is no less hurtful to the individual, than pernicious to the interests of society and disgraceful to human nature. What ruinous effects are the consequence of drunkenness alone! and how often do we behold whole families reduced to misery from this cause!

Every act of intoxication excites commotion in the blood, by which nature endeavours to throw off the baneful load that oppresses her; and when the excess becomes habitual, it is easy to conceive what ravages it must necessarily make in the constitution. Fevers occasioned by drinking do not always subside in a day; but frequently terminate in inflammations, which soon put a period to life. If the drunkard, however, should not fall by an acute disorder, he is generally overtaken by one or other of a chronic kind, under which he may drag for some time a miserable life, embittered by the thoughts of his folly, and the fatal effects it has produced. Of the slow diseases most commonly induced by frequent intoxication, are obstructions of some of the viscera (bowels), dropsies, nervous atrophies, and consumptions of the lungs; and when these diseases are the consequence of hard drinking, they prove, for the most part, equally obstinate and fatal.

Another abuse of liquors is a habit of soaking, as it is called; by which many are injured, without ever drinking to such a degree as to produce intoxication. This practice, though not attended with such violent effects as the former, s equally destructive. For the vessels, by being constantly kept upon the stretch, soon lose their elasticity; digestion s impaired, and a vitiated state of the humours of consequence ensues. The usual effects of this habit are consumptions, ulcerous sore legs, a disposition to the gout, and frequently likewise the gravel. The two last-mentioned disorders, as well as the dropsy, are likewise, in general, the portion of the epicure who indulges in excess; while another class of voluptuaries, the debauchees, or votaries to Venus, are commonly cut off by a nervous atrophy, or other consumption.

CHAP. IX.

Of Evacuations.

EVACUATIONS, as well as supplies, are necessary for the preservation of life and health. Without supplies, we hould die of famine; and without evacuations, we should perish by a superabundance of fluids become acrimonious and hurtful. The food, likewise, which we consume every day, necessarily deposits useless matter, which, if long remained in the bowels, would prove extremely injurious. To free the body from these incumbrances, nature has established three principal evacuations, which are those by tool, urine, and insensible perspiration.

Of the Evacuation by Stool.

A regularity and moderation in this discharge is of great mportance to health; for, if the fæces be expelled too soon, they deprive the body of its nourishment; and if too long retained, they communicate a noxious quality to the fluids. Once in the day, if the stool correspond to the quantity of the food, is the best standard of frequency in this evacuation; but the discharge is variable in different persons, and even in the same at different times, according to any incidental deviation from regularity in diet, exercise and sleep. It is liable to be affected either by eating too much or too little; the former frequently producing a looseness, and the latter the opposite extreme. Eating much salt, or mustard, tends likewise to promote it, while on the other hand it is retarded by the use of dry and hard meat. Some persons are naturally so constipated as not to go to stool for several days; and there occur extraordinary instances of the discharge having been withheld for some weeks. But these degrees of costiveness, though not sensibly injurious, must necessarily taint the fluids with a scorbutic acrimony, which may in time produce obstinate complaints.

Lying late in bed is unfavourable to this discharge, not only by the warmth, which, increasing perspiration, diminishes all the other discharges; but likewise by the inactivity, and even the posture of the body. Those are seldom subject to costiveness who rise early, and pass some time abroad in the open air. The method recommended by Mr. Locke, for procuring regularity in this discharge, is founded in just conception—"to solicit nature, by going regularly to stool every morning, whether one has a call or not." Such a practice induces a habit which in time becomes natural.

The province of physic furnishes a variety of gentle laxatives for obviating a costive disposition; but the frequent use of purgatives, however mild, tends to weaken the bowels, and consequently vitiate digestion; by which effect the costive habit is increased, and with it the necessity of repeating the medicines, till in the end they become more hurtful than the original complaint. It is therefore more safe to obviate costiveness by means of diet than medicine. But this subject will afterwards be more particularly considered under the article Costiveness (Obstipatio), which is ranked among the diseases. At present I shall only observe, that persons of this habit ought not to keep the body too warm, nor allow themselves the free use of any thing in diet that is of a binding nature; such as crust of bread, hard cheese, port, claret, &c. Those, on the contrary, who have an habitual disposition to looseness will receive benefit from using a diet the counterpart of the former; for example, such as eggs, cheese, rice milk, rice puddings, &c. Red wine and water, or water mixed with a little brandy, is the drink most suitable to such persons. A defect of perspiration is frequently the cause of an habitual looseness; on which account, the wearing a flannel waistcoat next the skin is found to be of great advantage; as is likewise, in particular, the keeping the feet warm; besides every other means of supporting a due perspiration. More explicit directions relative to this complaint shall be given in the treatment of Looseness (Diarrhœa).

Of Urine.

The discharge by urine is more frequent than that by stool, and is also more variable in quantity; on account of its being greatly influenced by the nature of the aliments, the state of perspiration, and the temperature of the air. As the urine is strongly impregnated with salts and oils, which, if too long retained in the body, would prove the cause of many disorders, the free discharge of it is highly conducive to health. So much regard was paid by the ancients to the appearances of urine, that physicians predicted from them the different states of health and disease: but more accurate observation, and a more intimate acquaintance with the animal economy, have taught that these appearances are extremely fallacious; and that though the urine, in conjunction with other circumstances, may lead to the knowledge of the present state of the body, it never can, in any degree, tend to ascertain its future affections, in respect either of health or disease. Such pretensions to knowledge, therefore, are founded only in prejudice or imposture; and it is much to be regretted, that popular credulity still continues to sanction, by an amazing attachment, the false claims of those who attempt to delude the public with so stale and palpable an artifice.

The quantity of the urine, as well as of the other evacuations, may be either too copious or defective. In the former case, it constitutes the disease named Diabetes, which shall be treated under its respective head; and in the latter (Ischuria), when proceeding from a stoppage of secretion, it will fall under the Obstruction of the Kidneys, from gravel, or some other cause. Many instances occur, where persons, by too long retaining their urine, from motives of false delicacy, have lost the power of discharging it. The bladder, being too much distended, has become paralytic; and every effort to cure it has proved abortive. Such dreadful examples ought to serve as a warning against ever permitting a preposterous delicacy to operate, when the consequence must be fatal.

A free discharge of urine not only prevents but actually cures many diseases, and ought, on this account, to be promoted; at the same time that every thing should be carefully avoided that tends to obstruct it. Food of a heating quality, and sleeping on beds that are too soft and warm, are in this case hurtful. When a deficiency of urine is perceived the person ought to take moderate exercise, and to eat of those herbs and fruits which naturally increase this discharge; such as parsley, asparagus, celery, strawberries, cherries, juniper-berries, and the like; using also light thin drinks, rendered gently acid by juice of lemons, or something else of that nature.

Of insensible Perspiration.

Of all the natural evacuations that of insensible perspiration is the most important; and on the proper state of this function the health of man chiefly depends. Nor ought it to be thought surprising that so great are the effects of an evacuation not perceptible to the senses, when we know that it exceeds in quantity every other discharge, and that the fluid discharged by it is of an acrimonious quality. According to the calculation of some physiologists, a person of a middle stature, and in perfect health, perspires from three to four pounds weight, according to others, about five pounds, within twenty-four hours. But it varies in different seasons, climates, and constitutions, and likewise in proportion to the casual diversities in exercise and food. In general, however, it is most copious during the night, on account of the warmth of the bed, and the greater uniformity of the surrounding atmosphere. Rheumatisms, agues, and most of the acute fevers, with various other disorders, arise from a suppressed perspiration.

Insensible perspiration is weaker after a plentiful meal, which accounts for the chillness often felt on that occasion. But as soon as the food is digested the discharge returns with increased energy; the chyle, then changed into blood, imparting additional force to the vital powers, as well as to the circulation of the blood itself. According to the experiments made by different inquirers into the nature of insensible perspiration, this process is most forcibly affected, and sometimes totally suppressed, by the following circumstances: 1. By violent pain, which in a remarkable degree consumes the fluids of the body, or propels them to other parts. 2. By obstructions of the vessels of the skin, which are frequently occasioned by the use of salves, ointments, and cosmetics. One of the most celebrated beauties of the present age lost her life by this practice. 3. By severe colds, especially those contracted at night, and during sleep. 4. When nature is either weak, or endeavours to promote any other species of evacuation; or, as was before observed, during the time of concoction, particularly after using food that is difficult to be digested.

Perspiration, on the contrary, is promoted by moderate exercise, the warm bath, and mild sudorific medicines; to which may be added cleanliness, and the exhilarating passions, hope and joy.

Too plentiful a perspiration indicates great weakness of the body, or a laxity of the vessels of the skin, which may frequently be removed by cold bathing or washing.

In this country, one of the most frequent causes of obstructed perspiration is the variable state of the atmosphere, producing sudden changes in the weather; to counteract the influence of which, and fortify the body against them, nothing is so efficacious as being abroad every day; for the habit of keeping much within doors renders a person extremely susceptible of cold on going into the open air.

The perspiration, even in summer, is often obstructed by night air; and this is more hurtful when accompanied by dews, which fall most plentifully after the hottest day. People, therefore, even in this climate, those especially who have been much heated by day, ought to avoid as much as possible being abroad in the night. In marshy countries, where on account of the great daily exhalations the dews are more copious, labourers are often seized with agues, quinseys, and other dangerous diseases, from an imprudent neglect of this caution.

Perspiration is liable to be greatly obstructed by wet clothes, which are prejudicial not only by their coldness, but by the moisture absorbed from them into the body. Fevers, rheumatisms, and a multiplicity of diseases, derive their source from this cause. The bad consequences of getting wet might generally be prevented by changing the clothes soon, or at least by keeping in motion till they are dry; but so regardless are many of this precaution, that they often sit or lie down in the fields with their clothes wet, and frequently sleep even whole nights in this condition; an act of imprudence liable to produce the most fatal effects.

Wet feet, by stopping the perspiration, are likewise often the cause of diseases, particularly colics, inflammations of the bowels, &c. Nothing sooner induces a fit of the gout in people subject to that complaint. The best preservative against the danger of wet feet is to wear thick shoes in walking over damp grounds, and to avoid the morning dews.

Damp houses have a strong tendency to suppress perspiration, especially in those who live in sunk stories, which ought never to be in any house not built in a dry situation. The same bad effect is produced by inhabiting a house too soon after the walls have been plastered or painted. To dampness, in this case, is added the noxious smell of the materials used in painting, the unwholesomeness of which is evident from the frequency of consumptions of the lungs among the people who work in those articles.

Damp beds have generally been considered as a fruitful source of diseases: and that the opinion is founded in more than prejudice would seem to be confirmed by experience. Fevers, consumptions, rheumatisms, and other disorders, have been confidently imputed to this cause. A physician of great eminence*, however, maintains the opposite opinion; but in a disputed point of this nature it is difficult to ascertain the fact, as the great danger supposed to result from damp sheets must deter all who have a regard for health from submitting to make a personal experiment on the subject. It is certain that opinions long held sacred have in the end been found to be vulgar errors: nor is it less certain, that in particular constitutions, and perhaps in many in particular circumstances, a powerful cause of disease may exist without producing any effect. The contagion of the plague itself is resisted by many constitutions. If we examine the question respecting damp sheets by the balance of impartial judgment, the authority in one scale is great and venerable; but the united weight of general prescriptive opinion and analogy would seem to preponderate in the other.

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* Dr. Heberden.

Nothing more frequently obstructs perspiration than sudden transitions from heat to cold. The bad effects of this practice are generally known, but the prevention of them too much neglected. Heat, by expanding the blood, and rendering its motion more quick, increases perspiration, which being suddenly checked is apt to produce dangerous consequences. To sit in a warm room, and drink hot liquors till the pores become open, and immediately go into the cold air, is an act of imprudence by which thousands have forfeited their lives. The same bad effects are apt to ensue, when people, to relieve themselves from the inconveniences of a hot room, throw open a window and sit near it: for, the current of air being thus directed against one particular part of the body, there is much greater danger of catching cold in such a situation than in sitting without doors; and the case will prove still more hazardous if the people so placed be thinly clothed. Similar to this, in effects, is the practice of sleeping with open windows too near to the bed, even in the hottest season.

The foregoing observations relative to air are applicable likewise to drinking too freely of cold water, or small liquors, when a person is hot. In such a case a mouthful of brandy, or other spirits, where it can be procured, is preferable to any thing else; but should water be the only thing at hand, thirst may be quenched without drinking a large quantity of it. Water kept in the mouth for a little time, and spit out again, if frequently repeated, has a powerful effect in abating thirst; and if a bit of bread be eaten with a few mouthfuls of water, the expedient is still more successful: but if, regardless of bad consequences, a man has imprudently when hot drunk freely of cold liquor, he ought to continue his exercise till what he drank be thoroughly warmed upon his stomach, and thereby prevent the hurtful effects of the chillness which would otherwise ensue.

So numerous are the instances of fatal effects produced by drinking cold liquors when the body is hot, that people ought to avoid that indulgence with the utmost precaution. The usual consequences of acting otherwise are hoarseness, quinseys, and fevers of various kinds; but, in some instances, immediate death has ensued. Though to eat freely of raw fruits, or salads, when a person is hot, be not so dangerous as the error committed in cold liquors, it is by no means void of danger, and should therefore be guarded against.

Of the Saliva.

The saliva is a fluid separated in the glands of the mouth, for the purpose of mixing with the food in the act of mastication or chewing, and is entirely different from the mucus, or slime, collected in consequence of cold. The saliva being of great importance in preparing the food for the stomach, it ought not to be unnecessarily wasted by frequent spitting: the custom of smoking tobacco, therefore, is in many cases prejudicial, as by depriving the body of this useful fluid it greatly weakens digestion. Frequent smoking makes the teeth yellow and black; white clay-pipes are apt to canker the enamel to such a degree as to infect the breath, and produce putrid ulcers in the gums. To persons of a middle age, or those of full growth, particularly the corpulent, the phlegmatic, and such as are subject to defluxions of the head and throat, it may occasionally be of service, if used with moderation, especially in damp, cold, and hazy weather. Such persons, however, ought never to smoke immediately before or after a meal, as the saliva is essentially requisite to assist the digestion of the food. They ought to smoke slowly; frequently take small draughts of beer, ale, tea, or other diluting liquors, but neither spirits nor wine. Lastly, they ought to use a clean pipe with a long tube: for the oil of tobacco settling on the sides of the pipe is one of the most acrimonious and hurtful substances, and may thus be absorbed, and mixed with the fluids of the body.

Of the Mucus of the Nose.

This humour is intended by nature to protect the olfactory nerves, or those nerves which are destined for smelling: hence every artificial method of increasing that discharge is hurtful, unless required by some particular indisposition of the body. By the discharge now mentioned, I do not mean the slime that is secreted in colds of the head, and is rejected as useless. The effect of snuff is to stimulate the mucous membrane of the nose, and sympathetically the whole body. If used as a medicine only, and on occasions which require such a stimulus, it may be productive of some advantage; but a liquid for this purpose is preferable to a powder, which, in the end, always obstructs the nostrils.

In several disorders of the head, eyes, and ears, the taking of snuff may occasionally supply the place of an artificial ssue; though an immoderate use of it is liable to be followed with a contrary effect, viz. bleeding of the nose, and other complaints. Snuff-taking would be particularly njurious to persons of a consumptive disposition, or those who are afflicted with internal ulcers, and subject to a spit-ing of blood; as, by the violent sneezing it at first occa-ions, they might be exposed to imminent danger.

CHAP. X.

Of Cleanliness.

CLEANLINESS is not only a moral virtue, but has an xtensive influence on the preservation of health: the neg-ct of it is indeed so hurtful, that to that cause is owing a ariety of diseases, and some of the most dangerous kind. utrid fevers frequently have their origin in this source; nd of cutaneous diseases, or those of the skin, it is of every ause the most prevalent. Uninterrupted perspiration is ndispensible for the security of health: but it cannot long e maintained without an uniform attention to cleanliness. hose parts of our apparel which are in contact with the kin must necessarily be impregnated, in a short time, with e vapours which continually exhale through the channels perspiration; and when not frequently changed they rove extremely hurtful, both by obstructing that dis-harge, and by acting in effect as a putrid fomentation to e body.

But the consequences that result from want of cleanliness e not confined to the individual. From this baneful origin whole community may be infected, and in a manner so vio-nt and pernicious as often to prove fatal. On this account, eanliness becomes an object of public attention: yet sorry n I to say, that instead of being enforced in great towns those who have the charge of the police, violations of it, en in the streets, are tolerated to a degree that merits the verest reprehension. Besides the nuisance from slaughter-ouses, frequently in the very centre of great towns, how ten do we behold dung-hills, dead animals putrefying, and stiness of every kind! In fact, the importance of general eanliness, towards the preservation of health, seems not be sufficiently understood by the magistrates of most great towns in this country; and while we pretend to civilization, politeness, and delicacy, we tolerate such abuses as place us almost upon a level with the Hottentots themselves.

Personal cleanliness is not only an amiable virtue, but a source of comfort to the individual. For example, after washing our feet we feel ourselves considerably refreshed; and this sensation would be still more perceptible, if the wholesome custom were introduced of frequently washing the whole body. In this point of cleanliness we are certainly far too deficient. Bathing or washing in cold water would not only clear the skin from impurities, but greatly strengthen the body. Those who have an aversion to cold water, or for whom the use of it would be unsafe, might wash themselves in tepid or lukewarm water, by which they might reap the benefit of purification without any injury to their health.

Bathing, whether in tepid or cold water, produces the most salutary effect on the absorbent vessels (those which take up any fluid from the skin, and carry it into the body). These would otherwise carry back the impurities of the skin through the pores, to the no small injury of the health. To persons in a perfect state of vigour, the frequent use of the bath is less necessary than to the infirm; as the former possess a greater power to resist impurities, by means of more abundant perspiration. But in the infirm, the slowness of circulation, the clamminess of the fluids, with the constant efforts of nature to propel the impurities towards the skin, render the frequent washing of their bodies of essential importance to their health.

The tepid or luke-warm bath, commonly called the *warm* bath, which is about the same temperature with the blood, between 96 and 98 degrees of Fahrenheit's thermometer, has usually been considered as apt to weaken the body; but this is an ill founded notion. It is only when its heat exceeds that of the human body that the warm bath produces any debilitating effect. The tepid bath from 85 to 96 degrees is always safe: and is so far from relaxing the solids, that in fact it powerfully strengthens them. Instead of heating the body, it has a cooling effect. It diminishes the quickness of the pulse, and reduces it in a greater proportion, corresponding to its former quickness, and the time the bath is continued. Hence tepid baths are of great service where a person has been over-heated, from whatever cause, whether after fatigue from traveling, severe exercise, or after violent exertion and perturbation of mind; as they allay the tempestuous and irregular movements thence produced, and consequently, in the strictest sense, give new vigour to the constitution. By their softening and moistening power they greatly contribute to the formation and growth of young persons, and are of singular benefit to those in whom is perceived a tendency to arrive too early at the consistence of a settled age; so that the warm bath is particularly adapted to prolong the state of youth, and retard in proportion the approach of full manhood.

The tepid bath, as well as the cold, considerably increases the pressure on the body from without: hence breathing, particularly on entering the bath, is frequently somewhat difficult, till the muscles have by practice been inured to a greater degree of resistance. Yet this effect, which in most instances is of little importance, requires the greatest caution in some particular cases, so far as to prevent the use of the bath altogether. This happens in persons of a full habit, who are in danger of bursting some of the internal blood-vessels by the precipitate use of the bath, whether warm or cold.

Bathing in rivers, as well as in the sea, is effectual for every purpose of clearing the body. It washes away impurities from the surface, opens the cutaneous vessels for a due perspiration, and increases the circulation of the blood. The apprehension of bad consequences from the coldness of the water is entirely chimerical: for, besides that it produces a strengthening effect, the cold sensation is not of itself hurtful. Precaution, however, is requisite in the use of the cold as well as in that of the tepid bath. Going into it when the body is over-heated might prove instantly fatal, by inducing an apoplexy. The plethoric, or those of a full habit of body, the asthmatic, and all those who perceive a great determination of the blood to the head, ought to be very circumspect in the use of it. For, though the consequence may not prove immediately fatal, yet, from the sudden force and pressure of the water, some of the smaller blood-vessels of the head and breast may easily burst, and thereby lay the foundation of an incurable disorder.

The sensible properties of the cold bath, in general, consist in its power of contracting the solid parts, and rendering the fluids more thick. Any part of the body which is exposed to the sudden contact of cold water experiences at the same instant a degree of tension and contraction, and becomes narrower and smaller. Hence it happens, that by the cold bath all the blood-vessels of the skin, and of the muscles in immediate contact with it, are so constricted, that at the time of this violent exertion they are unable to receive the usual quantity of blood. The smaller vessels of the skin are likewise closed, and press upon the humours contained in them, so as to prevent all perspiration during this pressure. Thus all the fibres of the skin and muscles are brought into close contact; and if the humours contained in these tubes had no other outlets, by which to discharge themselves, they would become thick, and lose their natural warmth. Were this to take place, it would be attended with dangerous stagnations and obstructions. That it does not, however, produce these fatal effects, may be ascribed to the following cause: As soon as the pressure is made against the external vessels, the blood retreats from them into places where it finds less resistance. All the great vessels within the body afford receptacles into which it now flows, till, the principal arteries and the veins of the intestines being entirely filled, it rises to the heart. Though the effect consequent on the cold bath may be considered as purely mechanical, yet this simple operation is frequently productive of the most important and beneficial effects.

The sudden changes arising from the application of the cold bath contribute in various ways to brace the human body. The relaxed fibres of the skin and the muscles acquire more solidity and compactness from contraction. Their elasticity is increased, and thus a considerable defect removed. The nerves are stimulated and excited to those powerful exertions, on which the vigour of the body so much depends. The blood, which by external pressure is driven into the internal vessels, extends and enlarges them, without diminishing that contractile force or tendency which is peculiar to every artery. At the moment when the external pressure ceases, all the internal vessels exert their inherent power of contracting more forcibly than usual, as they are more strongly extended, and consequently enabled to exercise a greater force. The blood, returned to the cutaneous and muscular vessels, finds its reservoirs contracted and invigorated; and it flows through muscles the fibres of which have acquired greater elasticity and power of resistance. It is now accelerated in its motion by these improved fibres and veins, and the result of the collective powers is a fresh impulse and rapidity given to its circuation.

It has already been observed, that to go into the cold bath when a person is overheated is dangerous; but the popular opinion that it is best to enter the water perfectly cool is a mistaken notion; and when put into practice it will render he use of the bath ineffectual. To use the bath without ny danger, and, on the contrary, with great advantage, is o dip into the water when the heat of the body has been a ttle increased by exercise. In this way only is the plunge productive of a shock, without which not the smallest benefit arises from cold bathing. As a corroborant, or trengthener, however, the cold bath, when properly used, is ound of incomparable efficacy. All other strengthening remedies, operating in general only on the fluid parts of the ody, require to be previously dissolved, and undergo we now not what changes, before they be conducted with the mass of blood to the solid parts. The cold bath, on the ontrary, acts almost instantaneously on the solid parts themselves, and produces its bracing effect, without the ecessary intervention of any other precarious aid.

The external use of cold water is of singular benefit, when applied to particular parts of the body, where its use may be much longer continued without danger, and where we may, in a manner, by compulsion and perseverance, acomplish the intended effects. Of all the parts of the body he head receives most benefit from the affusion of cold water. This is a simple and effectual remedy against too reat an impulse of the blood towards the head, where ersons are threatened with an apoplexy; in disorders kewise of the brain and skull; as well as in wounds and ther complaints to which the head is subject. In these stances, its efficacy may be improved by the addition of ommon or any other cooling salt.

In cases where the cold bath may be of service, it should e used according to the following directions: Every cold ath applied to the whole body ought to be of short duraon; for its efficacy depends upon the sudden impression of he cold upon the skin and nerves. The head should be alays first wetted by immersion, by pouring water upon it, the application of wet cloths, and then plunging over ead into the bath. The immersion ought always to be udden, not only because it is less felt than when we enter e bath slowly and timorously, but likewise because the effect of the first impression is uniform all over the body, and the blood in this manner is not propelled from the lower to the upper parts. Hence the shower bath possesses great advantages, as it pours the water suddenly upon the whole body, and thus perfectly fulfils the three rules above specified. Gentle exercise, as was before observed, ought to precede the cold bath; for neither complete rest nor violent exercise is proper previous to the use of this remedy. The morning or forenoon is the most proper time for cold bathing; either when the stomach is empty, or two hours after a light breakfast. While in the water the person ought to move about, in order to promote the circulation of the blood from the inward parts of the body to the extremities. After immersion the whole body ought to be rubbed dry as quickly as possible, with a dry and somewhat rough cloth. Moderate exercise out of doors, if convenient, is adviseable, and indeed necessary.

It may here be proper briefly to enumerate certain cases in which the cold bath must not be used: these are, in a general plethora, or full habit of body; in hæmorrhages, or fluxes of blood, and in every kind of inflammation; in constipations, or obstructions of the intestines; in diseases of the breast, difficult breathing, and short and dry coughs: in an acrimonious or sharp state of the fluids, bad colour of the face, difficult healing of the flesh, and the scurvy, properly so called; in fits of the gout; in cutaneous diseases, or those of the skin; in a state of pregnancy.

The best mode of cold bathing is in the sea: but when this cannot be procured, in a river, or spring water. Should bathing in the house be preferred, the most eligible method is by the *shower bath*, a proper apparatus for which is to be had at the tin-shops. Where the saving of expence is an object, it may be effectually supplied by the following easy expedient: Fill a common watering-pot with cold water, let the patient sit down undressed upon a stool, which may be placed in a large tub; and let the hair, if not cut short, be spread over the shoulders as loosely as possible; then pour the water from the pot over the patient's head, face, neck, shoulders, and all parts of the body progressively down to the feet, till the whole has been thoroughly bathed; let him then be rubbed dry, and take gentle exercise, as has been already recommended, till the sensation of cold be succeeded by a moderate glow all over him. On first resorting to this kind of bath it may be used gently, and with water in a small degree warm, so as not to make the shock too great; but, as the patient becomes accustomed to it, the degree of cold may be increased, the water may be allowed to fall from a greater height, and the holes in the pot may be made larger, to render the shower more heavy. A large sponge may, in some measure, be substituted for a watering-pot.

Though the shower bath does not cover the surface of the body so universally as the usual cold baths, this circumstance is rather favourable than otherwise; for those parts which the water has not touched feel the impression by sympathy, as much as those in actual contact with it. This bath, for the following reasons, possesses advantages superior to all others: the sudden contact of the water, which in the common bath is only momentary, may here be prolonged, repeated, and modified at pleasure. The head and breast, which are exposed to some inconvenience and danger in the common bath, are here effectually secured, by receiving the first shock of the water: the blood is consequently impelled to the lower parts of the body, and the patient feels no obstruction in breathing, nor any tendency of the blood towards the head. The heavy pressure on the body occasioned by the weight of the water, and the free circulation of the blood in the parts touched by it, being for some time at least interrupted, make the usual manner of bathing often more detrimental than useful. The shower bath, on the contrary, descends in single drops, which are at once more stimulating and pleasant than the immersion into cold water, and it can be more readily procured, and more easily modified and adapted to the circumstances of the patient.

I have been led into this digression on the cold bath, in consideration of the utility of washing the body for the purpose of cleanliness; and indeed cleanliness is so conducive to health, so amiable in itself, as well as so productive of comfort, and so inseparable from decency, that too much cannot be said in recommendation of it; nor can its opposite, the abominable vice of nastiness, be stigmatised with sufficient severity.

CHAP. XI.

Of Clothing.

CLOTHING, though not absolutely necessary for the preservation of health in extremely hot and dry climates, is indispensible in those where the temperature of the air is remarkably different; and it ought to be progressively varied in thickness and warmth, from the equator to the poles. A dress, therefore, which is sufficiently well adapted to summer, in northern latitudes, is by no means calculated to withstand the inclemency of winter, nor even the sudden incidental changes in the atmosphere which occur at all seasons, in countries where the weather is naturally variable. To this circumstance we may justly ascribe the greater part of the diseases which prevail in Great Britain. To adapt the dress with a scrupulous nicety to the fluctuations of temperature every day, would indeed require such minute attention as hardly any person can bestow: but every person may comply with the general rules of clothing, as far as not to lay aside too early the dress of the winter, nor to retain that of the summer too late; from a neglect of which precaution thousands of lives are every year sacrificed to mortality. The perfection of dress, considered merely as such, is to fit without fettering the body.

One of the chief considerations respecting dress is, What ought to be worn next the skin? as the several articles so employed affect the perspiration very differently. In most parts of Europe linen is commonly used for this purpose: by diminishing the elasticity of the skin it increases the internal warmth; while, from its compactness, it is more apt than wool to retain the matter perspired. Shirts, therefore, when worn longer than a day or two, are not only liable to excite a sensation of coolness, but to obstruct perspiration; which effect linen produces in proportion to the thickness of its texture. Silk attracts less humidity from the atmosphere than linen; but though it occasions a gentle stimulus, it is not very favourable to perspiration. Wool, on account of the gentle friction it occasions on the skin, produces a moderate warmth, and promotes perspiration; at the same time that, on account of the porous nature of this substance, the matter which it absorbs from the skin is easily evaporated. Cotton is an intermediate substance between linen and

ool: it increases warmth and perspiration; but, having
ie quality of retaining the perspired humours, it affords
pportunity for their being taken again into the blood, and
y that means tainting the fluids.

From the above concise view of the different substances
orn next the skin, it would appear that wool has greatly
ie advantage over the others. Flannel, by its gentle sti-
ulus on the skin, has the beneficial effect of keeping the
ores in a state the most favourable to perspiration. In
innel, the discharge by perspiration proceeds uniformly;
it not so in linen, when soiled with the moisture of the skin.
'he different effects of flannel and linen are particularly
erceptible during brisk exercise. When the body is cover-
l with the former, though perspiration be necessarily in-
eased, the perspired matter passes off through flannel into
ie atmosphere or air, and the skin remains dry and warm.
the same exercise be taken in linen shirts, perspiration, as
the former case, is indeed also increased, but the perspired
atter, instead of being dispersed into the atmosphere, re-
ains upon the linen, and not only clogs the pores, but
ves a disagreeable sensation.

Flannel has another advantage which merits attention.
s it does not retain the humours discharged from the skin,
eople who perspire profusely in flannel shirts will not
sily catch cold on going into the open air. But the same
not the case in respect of linen shirts, which, by retaining
e perspired matter, will occasion a sensation of chilliness,
ten followed by a violent cold, and sometimes even fatal
fects.

The prejudices of people have been much excited, both
favour of flannel and against it. It has been objected,
at flannel worn next the skin occasions weakness, by too
ich increasing perspiration: but this objection seems not
be founded in truth, since perspiration scarcely ever can
immoderate or hurtful, as long as the skin remains dry.

Flannel, when first used, is apt to cause an uneasy sensa-
on, but this soon goes off. In those who wear flannel, the
in, on being much rubbed, will become red and inflamed;
t we ought not, on that account, to infer that flannel pro-
ces cutaneous eruption; on the contrary, by preserving
e pores open, and increasing perspiration, it tends greatly
remove the cause of cutaneous eruptions, which arise
iefly from an irregular state of that discharge through the
res of the skin.

The prejudice against the use of flannel next the skin seems to be owing, in great measure, to the effects which ensue, from not changing it sufficiently often: but this objection is to be imputed to the wearer, not to the flannel itself.

It must be acknowledged, that the advantages above mentioned strongly recommend the use of flannel as a preservative of health, particularly to those who are exposed to all kinds of weather. It has the additional advantage of being suitable to all seasons, and of compensating a deficiency of upper dress. Extraordinary beneficial effects have been experienced from flannel in a variety of cases. In gouty, and, particularly, rheumatic habits, it has operated with singular advantage. In obstinate coughs, where symptoms of consumption were apparent, it has proved highly serviceable; and upon the whole it merits, both as a preventive and remedy of various diseases, a more general and extensive application than it has ever yet obtained.

Cotton stockings, though now generally worn, are far from conducing to the preservation of health. For, when once filled with perspirable matter, they do not admit any more to pass through them; but there accumulates a glutinous substance which obstructs the pores of the skin. Silk stockings, likewise, unless worsted be worn under them, retard perspiration. The same may be said of thread stockings. In fact, no kind of stockings is equal to woollen, in regard to supporting perspiration; but taste and fashion cannot readily adopt what common use has depreciated.

Whatever be the form of clothes, all tight bandages should be avoided, as they retard the circulation, and are likewise injurious to the muscles of the parts to which they are applied.

In respect of clothing, it is a matter of no small importance to keep the feet warm; without which the blood accumulates towards the head, and there is a sensation of coldness over the whole body extremely prejudicial to perspiration.

The general voice of antiquity is in favour of the precept that the head should be lightly covered; and, indeed, the covering which nature has given, seems alone sufficient for its protection, except where the hair is extremely thin, or the head bald. By going uncovered in the open air, if dry, the head is strengthened; but to render the practice perfectly safe, it should be begun at an early age. At no age, however, ought a person to go uncovered in sunshine, when the weather is hot, as the consequence may be an inflammation, or some other affection of the brain. Against such accidents black hats afford little defence; for, instead of reflecting the heat, they admit the solar rays to act more strongly upon the head. For people who are much in the open air, hats of a white or any other colour would be preferable.

Having said thus much of the quality of clothes, we must leave the quantity to the determination of individuals, as being a point which can be settled only by personal experience. But it may be proper to impress the caution, that all sudden changes ought to be carefully avoided; and that no person should either anticipate the summer dress too early, or postpone that of the winter to too late a period; both these errors being productive of the most pernicious effects.

CHAP. XII.

Of the Means of attaining Long Life.

THE desire of long life may be regarded as an affection natural to the human mind, and is connected with the strongest and most universal principle in the animal kingdom, that of self-preservation. Whether long life be an object really desirable in itself, may admit of some doubt, as extreme old age is liable to many infirmities; but considered in a moral point of view, we must acknowledge it to be an object of great importance. It carries man forward to a period when the tumultuous passions have subsided, and all temptations to irregular gratification have lost their influence on the heart: by which means it not only weans the affections of the soul from this transitory world, but affords opportunity of preparing it for the attainment of eternal happiness in that which is to come. These certainly are such effects as may justly recommend longevity to particular attention, and ought to excite a degree of solicitude concerning the means to obtain it.

If we inquire into the habits of those who have lived to the greatest extent, we do not find, so far as our information reaches, that they paid any particular regard to their method of living: some of them have even been addicted to propensities which have, in general, a tendency to shorten the duration of life. But we can infer from this nothing more than that those persons have had good constitutions; and there is reason to think, that, had they lived more conformably to the rules of temperance, they might have protracted life to a still greater extent.

Were we to draw up a system of rules for the prolongation of life, they would be founded in a strict attention to the observations contained in the preceding chapters; but we know that these rules, however salutary, are not always practicable.

In the first place, it may be laid down as a principle, that to be a candidate for long life, one ought to be descended of healthy parents, and possess the rudiments of a good constitution by inheritance. To this must be added good nursing; for the right management of infancy is of great importance in the subsequent stages of life.

To live in a pure and wholesome air is another essential circumstance towards procuring longevity. There are, in most countries, particular situations celebrated for the salubrious quality of the air; but, in general, it may be healthful in places where the ground is not wet and swampy, where there are no stagnant waters, and where the dwelling is perfectly dry. If the situation be elevated, or such as has a free ventilation by the winds, it is an additional advantage; and, if near the sea, still more healthful. In such situations, it is common for many to live to a great age, who enjoy no other benefits conducive to longevity.

Much depends on wholesome diet for the preservation of health, and consequently for the attainment of long life. It is, however, not necessary to observe great strictness in this article. A mixture of animal and vegetable food is the most proper; but there are many instances of people living to a great age, who confine themselves to the latter. But a diet entirely of vegetables does not agree with every constitution, especially the weak and delicate; and those who use it are generally incapable of bearing great exertion, or violent exercise.

Temperance in eating and drinking is doubtless advantageous to the prolongation of life; I do not mean a scrupulous exactness in point of quantity, but a general mediocrity in both, and an abstinence from habitual excess. Voluptuousness, however, and luxury are extremely prejudicial.

There is another kind of temperance of the utmost importance in determining the limits of human life; namely, that which relates to the commerce of the sexes. Nothing seems adequate to secure the prospect of longevity, where there is a too early and immoderate propensity to this baneful indulgence. In the state of wedlock, the passion may be sustained without injury to a constitution not previously enfeebled; but in illicit connections it operates to general ruin of health and morality.

Daily exercise, or labour not immoderate, is highly conducive towards the lengthening of life; for, besides their immediate effects on the body, they tend to secure sleep in the night, which is also an essential requisite for the preservation of health. Early rising is a habit generally found amongst those who have attained to a great age. It lays in a fresh stock of health for the consumption of the day; on the transactions of which it appears likewise to have a salutary influence.

To these observations which relate to the body, I have only to add, that the constitution best disposed to longevity is that in which the passions are moderate, and where life is spent in the enjoyment of tranquillity of mind.

Many are the nostrums and arcanums which extravagance or imposture has fabricated, and superstition implicitly received, for the prolongation of life; but it is a privilege which cannot be purchased, though indeed it is too often and profusely bartered for pernicious enjoyments.

From the extraordinary age to which many have attained, it is evident that the human constitution is susceptible of long existence; and where its strength is not exhausted by hard labour, there is reason to believe, that, by a proper government of the appetites and passions, it might frequently be extended to a period even beyond any instance recorded in natural history.

In cold climates men in general become older than in warm; because vital consumption is increased in the latter, and restrained in the former. This, however, is the case only in a certain degree. By the highest cold, such as that of Greenland, Nova Zembla, &c. the duration of life is shortened.

Uniformity in the state of the atmosphere, particularly in regard to heat, cold, gravity, and lightness, contributes in a very considerable degree to the duration of life. Countries, therefore, where sudden and great variations in the barometer and thermometer are usual cannot be favourable to longevity.

Upon the whole, it appears, that moderation in every thing, the *aurea mediocritas*, so deservedly extolled, is the means of greatest efficacy in prolonging life; which leads to the conclusion, that longevity is intimately connected with habits of virtue; and seems, as it were, an emblem of that immortality which moral perfection shall obtain.

The true prescription for procuring length of days is to be careful of health, but without being too anxious; and in every vicissitude of life, to endeavour, as much as possible, to preserve tranquillity of mind.

END OF THE PRELIMINARY MATTER.

BOOK II.

Of CHILDREN:

THEIR MANAGEMENT AND DISEASES.

CHAP. I.

Of the Treatment of Infants.

THE constitution of children, as depending much on that of the parents, is often hereditary, and perhaps incapable, in most cases, of being altered for the better by any kind of treatment after birth. There are happily, however, many instances which contradict this general remark: and it is found by repeated observation, that the offspring of weakly if not even diseased parents are sometimes conducted through childhood in so healthy a state, as not only to enjoy the same blessing in the subsequent periods of life, but to acquire a habit of body both hardy and vigorous. If such be the case under the circumstances now mentioned, how much more ought the children of healthy parents to enjoy the happiness which nature has intailed on their descent? But that in general they do not, is a truth unfortunately evinced by the most undeniable evidence. It appears from the annual registers, that nearly one-half of the children born in Great Britain die under twelve years of age. Impartial reason will not justify the supposition that so great a mortality can be owing either to the climate of the country, which is in general temperate and salubrious, or to all the usual diseases of childhood; especially considering that one of the most fatal of these has been for many years restrained in its ravages by the practice of inoculation. We must seek for the source of this lamentable evil in other causes; and whoever takes a view of the nursery will find them there in abundance. Let us first direct our attention to the clothing of children.

Of the Clothing of Children.

It is certainly conformable both to nature and common sense, that the clothing of infants should be, as much as possible, easy, and free from all pressure or incumbrance. Nothing more is requisite than to keep the child sufficiently guarded against the inclemency of the air; but nurses, not content with the simple expedients required for this purpose, exert all their industry in so fettering the tender body entrusted to their care, that, through their mistaken prejudices, they often render it, in a very short time, not only weak and sickly, but, perhaps, likewise deformed. The absurd practice of rolling children in a load of bandages is now in a great measure disused; but the pernicious principle still continues of molesting them with a pressure, undoubtedly painful to the sensibility of their delicate feelings, and certainly injurious, in an extreme degree, to their health. Many instances might be mentioned of children dying of convulsions soon after birth, in consequence of the tightness of their clothing. Nor is such an effect to be wondered at, when we consider how much the circulation of the blood must be obstructed in the tender bodies of infants, either by a general or partial pressure from without. In the former case, the whole frame is affected with oppression; in the latter, a complaint may be engendered which nothing can afterwards remove. The chest and belly are the parts that suffer particularly from such treatment; and in these are contained the bowels, most essential to health, as well as to life itself. But even supposing that the practice should be confined to the limbs, the bones of an infant are so soft and flexible, that they readily yield to the slightest pressure, and are easily distorted. On every account, therefore, the practice of tight swaddling is highly pernicious, and ought to be universally exploded.

But it is not the tightness only of clothes that is prejudicial to children; they are likewise overloaded with quantity, which, by encumbering and too much heating their tender bodies, increases a feverish disposition that commences at their birth, and continues for some time after. Nor is this the only way in which the same effect is produced. From the natural affection of the parent, the child is commonly laid in bed with the mother, who is herself often feverish. To this may be added the unwholesome heat of the bed-chamber, the fumes of hot-caudle, and the effects of wine, which is often imprudently given to infants, even soon after birth. From all these causes combined, it is not surprising if, at this period, there should be laid the foundation of complaints which will affect the constitution during life.

Ease and warmth are the only objects which require the attention of those who have the management of children ; but they have hitherto been generally sacrificed to the dictates of preposterous vanity and fantastic caprice. It may be affirmed, with great probability, that more children have been destroyed by the baneful use of stays, than ever, in ancient times, were passed through the fire unto Moloch.

But whatever be the fashion in which children are clothed, cleanliness of their garments is an indispensable object. Children, from the moisture of their bodies, and the openness of their pores, perspire, comparatively, more than persons in the prime of their age ; and unless their clothes be frequently changed, they must soon become foul and hurtful ; not only by fretting the skin, and occasioning noxious smells, but by producing vermin, and cutaneous diseases, arising from impurity.

There is another operation practised by nurses which deserves severe reprehension, that is, forcing out the milk from the breasts of the new born infant. Some children, a day or two after birth, have the breasts much enlarged, hard, and painful, containing something like milk ; and nurses are extremely ready to milk it out, as they call it. The fact is, that the child's breasts are already in a state of inflammation ; notwithstanding which the officious and misguided attendant continues squeezing the parts for some time, though the cries of the infant might convince her that she is putting it to pain.

In the case of inflammation, the most proper remedy is a poultice of bread and milk ; but if the part be really not inflamed, every application is superfluous. If, however, something must be done, a little oil, with a drop or two of brandy, may be gently rubbed in ; or small bits of the charge plaster may be applied, and lie on the parts till they fall off of themselves. Indeed it is sufficiently ascertained, in respect even to a considerable tumefaction and hardness of the breasts, that when no violence is offered to the parts, the application of a bread and milk poultice will always prevent either suppuration or other unpleasant consequences.

Of the Food of Children, and other Particulars.

With respect to the proper food for children, in the early state of infancy, one should think it was impossible for a rational inquirer to entertain any doubt: yet such is the caprice of human sentiments that there have been found men.

who condemn not only the aliment itself which nature has ordained for their support, but likewise the common manner of giving it, in direct contradiction to the united voice both of reason and instinct. It would be in vain to contend with argument where the understanding is so insensible to conviction; and I shall therefore assume it as a self-evident proposition, that the milk of the mother, or, in case of her incapacity of suckling, that of some other healthy woman, of suitable endowments for the office, is the wholesomest and most proper food for children in the state of infancy.

Some are of opinion that the child ought not to be put to the breast till many hours after its birth; but such practice seems to be destitute of any just foundation. The infant, while in the womb, was receiving from its mother a constant supply of blood, without the smallest intermission; and after it is once put to the breast, the calls of its appetite are frequent: for what good reason, then, I would ask, should the child be denied the benefit of the law of nature for a considerable time after its birth? Even a man in the vigour of life would find himself weak and faintish, after an abstinence from meat and drink for forty-eight hours; and is it reasonable to suppose, as some maintain, that a tender infant can suffer no hurt from a total privation of aliment during so long a period? If we are not to renounce every dictate of reason on the subject, we must implicitly admit that the infant ought to be put to the breast as soon after birth as the circumstances of the mother will allow.

But here a crowd of absurdities, sanctioned both by custom and authority, open upon us at once. If the meconium or fæces of the child be not discharged almost as soon as born, of which there is no immediate necessity, the nurses instantly have recourse to syrups, oils, and other favourite laxatives, with which they stuff the infant's stomach, at the hazard of producing sickness, if not some more dangerous complaint. But this is perhaps the least hurtful manner in which their preposterous officiousness operates. From a fallacious idea that a new born infant stands in need of cordials, they almost universally mix wine, and perhaps spiceries, with the first food it takes—a practice which tends to heat the blood, already too much agitated by the recent birth, and a sudden transition from a close and warm receptacle into a new and, in respect of its feelings, a painful state of existence. A small quantity of wine is sufficient to inflame the body of an infant; and, instead of such liquor, it properly admits of nothing but what is weak, light, and of a cooling quality. If the mother or nurse has enough of milk, the child will require little or no other food before the third or fourth month; when it may be proper to give it once or twice a-day a little of some food that is easy of digestion, such as milk-pottage, water-pap, weak broth with bread in it, and the like. This will not only ease the mother, but accustom the child by degrees to take food, and will render the weaning both less difficult and less dangerous. Milk, however, ought to be the chief part of the diet of infants for a certain time, whether it be breast-milk or any other; and next to this natural food is good light bread, which may be given to a child as soon as it has an inclination to chew. Indeed it will not only serve as food, but will promote the cutting of the teeth; and is preferable to the hard substances generally used for this purpose. It is also of advantage by promoting the discharge of the saliva, and carrying it down into the stomach, where it is of great use in digestion.

Bread, besides being used dry, may be many ways prepared into food for children. A very good way is to boil a piece of roll, together with the upper crust, in a good deal of water, till it becomes very soft, by which means the bread will part with some of its acescent quality: the water should then be strained off, and the bread mixed up with the milk, which ought to be boiled, if the child is very young, or inclined to a purging. Bread is at all times a proper food for children, provided it be made of wholesome grain, and well fermented: but it ought never to be mixed with fruits, sugars, or other ingredients, unless indeed it were some carminative seeds, such as anise or carraway, specially if they be troubled with any flatulency in the tomach or bowels.

Children ought never to be allowed any animal food till fter they are weaned, and even then it should be sparingly used. It must be owned, that when children live wholly n vegetable food, it is apt to sonr on their stomachs; ut, on the other hand, too much flesh heats the body, and is ready to occasion fevers and other inflammatory iseases. The safest way, therefore, is to use a due mixture f animal and vegetable food.

Strong liquors of every kind are injurious to the health f children; and such as are encouraged to use them become generally liable, in a higher degree than others, to the violence of the usual diseases of childhood, as well as to inflammatory fevers. The most proper drinks for children are those of the simplest kinds, such as water, milk, butter-milk, or whey. The strongest ought to be only small beer, or a little wine mixed with water. Children require no stimulants to assist digestion; and being naturally hot, as well as easily affected by whatever is endowed with that quality, they suffer from the use of such liquors.

Fruit is an article of which children in general are particularly fond; and this natural taste may safely be indulged in moderation when the fruit is ripe. But all unripe fruits are highly prejudicial to their stomachs, and ought to be kept as much as possible out of their way. Many children likewise hurt themselves by eating immoderately of raw carrots. Nor ought they to eat much of roots which have a viscid juice, even though prepared in the kitchen. Butter, as it relaxes the stomach, and tends to produce gross humours, is an article of diet not the most proper for children; and its place might be well supplied by honey, where this proves not griping nor purgative.

The custom of sweetening the food of children is extremely prejudicial, as it entices them to eat more than is proper; by which means they grow fat and bloated. On the other hand, children may be hurt by too little as well as too much food. After a child is weaned, it ought to be fed four or five times a-day; but never have too much at a time: neither should it be accustomed to eat in the night. To these cautions it may be added, that infants ought not to be fed lying on their backs, but sitting upright: for in this position they will not only swallow their food more easily, but will more readily perceive when they have had enough.

If milk be the proper food for infants brought up by hand, it becomes an object of inquiry, what milk is the most suitable? The question seems to be most generally decided in favour of cow's milk, in preference to all others, as being the most nourishing, and therefore in general the most proper. To the milk should be added a little thin gruel or barley-water, which forms a very smooth and pleasant nourishment. A few weeks after birth, and indeed the sooner the better, instead of the barley-water or gruel, there should be mixed with the milk a small quantity of thin jelly of hartshorn, made to the consistence that veal-broth acquires when it has stood to be cold. The jelly renders the food more nutritive, as well as corrects, in some measure, the acescency of the milk. To this compound of jelly and milk a little Lisbon or raw sugar may be added, if the child be not inclined to a purging, or, in that case, a little loaf-sugar; but the less of either the better. At first, the milk ought to be boiled, to render it less opening; but when the child is several months old, or may chance to be costive, the milk need only be warmed. If it be fresh from the cow, and very rich, a portion of water may be added to it, whilst the infant is very young. It ought likewise to be as new as possible; since milk, as an animal juice, probably contains some fine subtile particles which evaporate upon its being long out of the body.

When it was said that cow's milk is preferable to any other, it was understood to be for infants who are strong and healthy. But asses' milk is more suitable for many tender infants during the first three or four weeks, or perhaps for a longer time, as well as for children who are much purged; for, being thinner, and having far less curd than any other milk, it sits much lighter on the stomach.

It is observed that children brought up at the breast do not require a thicker kind of food so early as those who are brought up by hand, breast-milk being more nourishing than any other. It is recommended upon good authority, that the first addition of this kind ought to be beef-tea or broth, with a little bread beat up in it in the form of panada. A very wholesome and nourishing broth for the purpose is the gravy of beef or mutton, not over-roasted, and without fat, properly diluted with water. But as this cannot be given oftener than two or three times a-day, a little bread and milk may be allowed them every morning and evening, as their strength and circumstances may require.

It has been already observed, that children may be hurt by too little as well as too much food; and this remark is more worthy of attention, as some parents, running into that error, keep their children too long upon a thin and slender diet, which disposes them much to the rickets. For when they have reached the period of going alone, not only ought a little light meat and some of the mild vegetables to be allowed them once a-day, or alternately, with broths, puddings, and different preparations of milk, but even a little red wine is beneficial to many constitutions. This diet will not only promote digestion, and obviate in a great measure a disposition to worms, but, by strengthening the habit, will also render children less liable to become rickety, at the very period when they are much disposed to that disorder. This plan deserves the more to be enforced, because some parents, from a mistaken opinion of doing right, keep their children too low; allowing animal food only every other day to those of four or five years of age. This practice, unless in very particular habits, is surely an error, at least in the climate of this country, and disposes to scrofula.

When a child is unwell, of whatever kind the disorder may be, the lightest diet possible should be used. If a fever accompanies it, the child will require still less food than in any other complaint, but a larger portion of drinks. These may also be so calculated as to furnish nearly as much nourishment as the infant will require, and may in the summer-time be given cold. Of this kind are, barley water, water in which a crust of bread has been boiled or steeped, and thin tapioca: or if a purging attends, rice-water, and a drink made of hartshorn shavings, with a little baked flour in it. In this complaint, in which more nourishment is required to support the child than under most others (if not attended with fever), baked flour mixed up with boiled milk is admirably calculated both as a proper diet and medicine; and if the flour be kept in a dry place, it may be preserved fit for use for a considerable time. Should this disagree with the child, on account of the great acidity in the first passages, good beef-broth, thickened with baked flour instead of bread, ought to be made trial of. It makes a very pleasant diet, as well as corrects the acidity in the stomach and bowels.

Much has been said of acidity by all who have written on the diseases of children. When it has risen to the height of being injurious, it is probably often an effect rather than the cause of the disorders of infants. It seems indeed to be natural to them; arising both from the weakness of their organs of digestion, and the nature of their food. But till the body be disordered, and digestion impaired from one cause or other, the acescent quality of their food is not likely to prove very injurious to them, and probably far less so than food of a very alcaline nature would be, with a like weak digestion. The most obvious inconvenience which it produces is flatulence or wind in the stomach and bowels. This symptom may be relieved by mixing, now and then, with their food, some carminative seeds, or the waters distilled from them; such as sweet fennel, or cardamom-seeds, bruised very fine; or a little of the water of dill-seed. But though such an occasional addition to their food is often extremely useful, it ought not to be used habitually; otherwise it loses its effect. Children, however, become ess subject to wind and hurtful acidities as they grow older, and the stomach acquires more strength. But if these complaints continue obstinate, a little fine powder of chamomile flowers, or a few drops of the tincture of columbo mixed in water, and warmed with a little ginger, will prove very bracing to the stomach and bowels, and render them ess disposed to acidity. Exercise also, according to the age and strength, is a great preservative and remedy.

When milk is frequently thrown up curdled, a little of prepared crabs claws or oyster-shell powder may be added o it: or a very small quantity of almond soap, or of common salt, which will not at all injure the flavour, and will prevent this change from happening too soon in the stomach.

It may not now be improper to make some observations on wet-nurses and weaning.

The chief and essential quality of a wet-nurse is, doubtless, that her milk be good: to which end it is necessary that she should be healthy and young, not of weak nerves, nor disposed to menstruate whilst she gives suck; and that her body be rather costive than otherwise. Her nipples hould be small, but not short, and the breast prominent, and rather oblong than large; such distention being rather rom fat than from milk. The chief marks of good milk re its being thin, of a blueish colour, rather sweet, and in great quantity; and if under six months old, it is an advantage: for after this time it generally becomes too thick or a new-born infant, and is not easily digested. A wet-nurse ought to have good teeth; at least her gums should be sound, and of a florid colour. She must be perfectly ober, and rather averse to strong liquors; which are seldom necessary to young and healthy people for making them have plenty of milk. She should be cleanly in her person, good-tempered, careful, fond of children, and watchful in he night; or at least not liable to suffer in her health from being robbed of her sleep.

The diet proper for wet-nurses is likewise worthy of atention. And here a strict regard should be paid to natual constitution and habit. Due allowance being made for these considerations, the proper diet for a suckling woman should consist of milk, broth, and plain white soups: plain puddings, flesh meats of easy digestion, and a due mixture of vegetables; with plenty of diluting drinks, and such a proportion of more generous liquors (spirits excepted) as the casual variety of circumstances shall be found to suggest. Respecting vegetables in particular, the most scrupulous regard should be had to constitution and habit. Wherever vegetables, or even acids, uniformly agree with the suckling parent or nurse, healthy children will rarely suffer by her partaking of them; but, on the contrary, the milk being rendered thereby thin and cooling, will prove more nourishing and salutary, on account of its being easier of digestion. Besides these regulations there should be added an attention to exercise, and frequent walks in the open air; to both which hired wet-nurses have been previously accustomed, and are therefore sure to suffer by confinement to warm rooms, to the detriment both of their own health, and that of the infants whom they suckle.

The weaning of children is a period which also demands particular attention; and the proper age for it will greatly depend upon accidental circumstances. To undergo this change, a child ought to be in good health, especially in regard to its bowels; and doubtless ought first to have cut at least four of its teeth. This seldom takes place till it is near a twelvemonth old; and it may be observed, that healthy women who suckle their own children, and take proper exercise, seldom become pregnant again in less time. Astruc advises children to be suckled till they are two years old: but for this he gives no sufficient reason; and indeed such a practice would, in many cases, be sacrificing the health, if not the life, of the mother or nurse, without procuring to the child any advantage which might not be otherwise obtained. From nine months to a twelvemonth seems to be the period which, exclusive of any urgent motives, either to anticipation or delay, may be fixed upon as the most proper time for the weaning of children. Small and weakly infants, if rather feeble than ill, are sometimes benefited by being weaned. They should, therefore, about this age, be taken from the breast, instead of being, on account of weakness, nourished much longer in that way. At least, in most cases, it is advisable to make a trial of such a change. Any preparation for weaning is in general superfluous, and especially that of feeding children beforehand; though this is made a common excuse for stuffing them, whilst at the breast, with indigestible food.

When the weaning is once entered upon, a great part of the child's food ought still to be of milk, with puddings, broths, and but little meat; and every kind of food, and even drink, should be prohibited in the night, even from the first, supposing them to be weaned at a proper age. The mere giving drink, even for a few nights, creates the pain and trouble of two weanings instead of one; and if the practice be continued much longer, it not only breaks the rest, but the child will acquire a pernicious habit of being fond of drinking; the consequence of which is very often a large belly, weak bowels, general debility, infirm joints, and all the symptoms of rickets. The child need only be fed the last thing before the nurse goes to bed, which may generally be done without waking it; and whilst the child seems to enjoy this sleepy meal, it becomes a most pleasant employment to the mother or nurse, from observing how greedily the child takes its food, and how satisfied it will lie for many hours on the strength of this meal.

Healthy children sleep a great deal for the first three or our days after they are born, probably from having been ccustomed to it in the womb. They ought not, however, o be suffered to continue this habit in the day time, to the egree some children are permitted, but should be gradu-lly broken of it. Indeed, if not indulged, they will not be o much disposed to sleep as is generally imagined, and will therefore take more rest in the night. This is equally eneficial to the child and the mother, if she be in the same oom, who, especially if she suckles, will be less disturbed a time when she particularly requires the refreshment f sleep.

When infants sleep badly in the night, they should be pt more awake, and have as much exercise as possible in ie day time, which, though they be ever so young, may pretty considerable, by playing with them, dandling on ie knee, and otherwise amusing them; and when older, every kind of exercise they can bear.

The child, if healthy, will soon contract a habit of being ry much awake while it is light, through that lively and stless spirit peculiar to infancy: and by this means an-her evil will be very much avoided, that of often laying a ild down to sleep in the day time, for hours together, ided with a thick dress, and covered besides with heavy clothes in a soft cradle, or bed; all which, besides being heating, are extremely injurious to the circulation of the blood.

It is certain, at the same time, that many children have much less sleep than they require: but this deficiency is chiefly in the night, and is often the consequence of some complaints which the child labours under.

It deserves to be remarked, that the custom of constantly placing infants on their backs, whether in the cradle or bed, is extremely improper: for by this means the superfluous humour secreted in the mouth, which, in the time of teething especially, is very considerable, cannot be freely discharged, and must fall down into the stomach, where its too great quantity gives rise to various disorders. Infants should therefore be frequently laid on their sides, particularly the right, as favourable to the stomach getting easily rid of its contents: to which side also children, when strong enough, will instinctively turn, if not prevented by the weight or confinement of their own clothes or those of the cradle or bed. The reason assigned for all which is a fear of the infant's falling or turning on its face: but this is rather an apology for the neglect of that necessary attention to children, which, when it can be commended, should never be spared them.

Infants ought scarcely ever to be in a quiescent state, except when asleep; and happily for them, that active disposition with which nature has endowed them corresponds to this observation. Exercise, like air, is indeed of so much importance to children, that they cannot be healthy without it: care only should be taken that it be properly suited to their age. The first kind of exercise consists in dandling as it is called: patting the back after feeding, and gently moving the child up and down in the arms; taking care at first not to toss it very high, infants being very early susceptible of fear, even to the degree of being thrown into fits by it. Another exercise adapted to this tender age, and of the utmost advantage, is rubbing them with the hand. This should be done all over, at least twice a day, when they are dressed and undressed, and especially along the whole course of the spine or back-bone. It ought also to be continued for some time, being peculiarly agreeable to the child; as it constantly testifies by stretching out its little limbs, and pushing them against the hand, with a smile expressive of the satisfaction which it enjoys. Such gentle exercise may be

rtially repeated, every time the child's clothes are changed,
rubbing the lower limbs and every other part within
ach. These frictions not only promote the circulation of
e blood, but excite a lively sensation in the parts, and
nd greatly to strengthen the body.

When children are older, they ought never to be carried
an indolent posture, but the arm that supports them
ould be constantly in such motion as the nurse is able to
ntinue. The manner of carrying an infant is of more im-
rtance than is generally imagined: for by it the child
ll contract a habit, good or bad, that it will not readily
ve up; and may be as much disposed to become rickety
improper management in the arms, as if it were lying
t in the cradle, than which nothing is more pernicious
the constitution of an infant. In recommendation of pro-
r exercise to children, I shall just mention the great ad-
ntages of which it is known to be productive. Besides
engthening the digestive powers, and indeed the whole
dy, it tends to push forward the blood through the small
ssels, and to unfold these in the manner in which nature
signed them to be extended, for promoting the growth
the infant. At the same time it preserves the blood in
proper state of fluidity, and promotes both the secre-
ns and excretions, so indispensable to the preservation of
alth.

CHAP. II.

Of the Diseases of Infants and Young Children.

HOWEVER extraordinary the remark may appear, it
eyond a doubt, that the infant offspring of the human
e are more liable to diseases and early death than those
ll the other animal tribes. A variety of causes concur to
duce this effect: the weakly constitution of many pa-
ts, whether hereditary or acquired, the incapacity of
ne mothers to nurse their own children, and the disincli-
ion of others to that natural duty, with the carelessness of
cenary nurses in performing the task, and the misma-
ement usually practised, all conspire to injure the tender
ne, and increase the mortality of children. It therefore
omes a subject of great importance to the interests of
iety to point out in as clear a manner as possible the

most rational method of treating those complaints to which the infant generation is peculiarly liable.

Some writers have regarded any inquiry into this subject as fruitless and unnecessary, because, infants being incapable of giving any information concerning their complaints, the physician can only form his opinion by the help of conjecture; while others, ascribing all diseases to one general principle in the constitution of children, have paid little or no attention to examining into the variety of causes which may occasionally produce disorders in their delicate frame. The consequence is, that the diseases of infants have only lately begun to be studied with any suitable degree of application; and old women and nurses have in general assumed to themselves the sole right of practising even in the most dangerous circumstances of the infant state. This blameable remissness on one hand, and unwarrantable officiousness on the other, are objects of the most serious regret; and every effort should be made by the friends of humanity to rescue a helpless generation from so fatal an evil, and prevent them from daily falling a sacrifice, in thousands of instances, to the pernicious and lamentable effects of ignorance and error. To remedy therefore this grievous abuse, I shall deliver as concisely as possible the method of discovering and curing the disorders of children, upon principles not only agreeable to rational theory, but confirmed by the observations of men the most attentive to, and most experienced in, the diseases of infants.

Of the Retention of the Meconium.

The meconium is a black, thick matter, lodged in the intestines, and which is generally discharged by stool, for the two or three first days after birth. To answer this purpose nature has wisely ordained that the milk of the mother, during the earlier part of this period, should be endowed with a purgative quality: but through a mistaken opinion, too common among nurses, the infant is debarred from this wholesome aliment, and not permitted to suck till the breasts have been drawn, when the milk has no longer the quality which it originally possessed; and there arises a necessity of having recourse to other means for unloading the bowels, at this time oppressed with the quantity of what they contain. In general, very little medicine will suffice for the purpose: it may be answered, for the most part, by a little syrup of roses, along with some thin gruel, and given

om time to time in the quantity of a tea-spoonful: but if
is should fail, a tea-spoonful of castor oil will commonly
found effectual.

It is observed, however, that the meconium does not al-
ays yield to the use of the common purgative medicines;
d therefore, if the child has had no stool during twelve or
urteen hours after birth, it will be advisable to give im-
ediately a clyster, such as the following, which, if ne-
ssary, may be repeated a few hours after.

Take of milk, or water-gruel, or an infusion of linseed,
ur table-spoonfuls; brown sugar, and sweet oil, each a
ble-spoonful; common salt, a tea-spoonful. Mix them
gether.

It is always proper to begin with gentle remedies: but if
ese still prove unsuccessful, which is sometimes the case,
d that the discharge of the meconium is not accomplished
two or three days, there is reason to suspect a deficiency
nervous influence, and more powerful means must be
ade use of. The dose of castor oil should be increased,
the quantity formerly given be repeated as occasion re-
ires; and the clyster be rendered stronger, by doubling
e quantity of salt.

Even after the meconium is discharged children are fre-
ently subject to costiveness, either constitutional or acci-
ntal; and this circumstance proving the cause of wind
d pains in the bowels should always be remedied by the
of opening medicines. Besides what have been already
ntioned, the powder of rhubarb, given occasionally, in
quantity of four or five grains, will be found extremely
eficial, as it not only discharges any matter that irritates
bowels, but likewise tends greatly to strengthen them.
here the mother is very much constipated her children
generally the same.

Of the Jaundice, or Yellow Gum.

This disease is not to be confounded with the yellowness
the skin that appears about the third day after birth,
med by some the yellow gum, and which is too trifling
be mentioned as a disease. The true jaundice, accom-
ied with a yellowness of the eye, is a disease by no
ans frequent among infants, though it sometimes does oc-
. It proceeds from some viscid or thick matter stopping
the gall-ducts, to remove which it is necessary to give a
itle emetic, or vomit. The best thing for this purpose,

as being most certain in its operation, is the powder of ipecacuanha, given in the quantity of three or four grains; and next morning four or five grains of rhubarb. Should the disorder continue, the emetic ought to be repeated after two or three days, and the rhubarb every other day, giving, on the intermediate days, eight or ten grains of tartarised kali, dissolved in some water. In many cases, one grain of calomel, mixed with three or four grains of rhubarb, and repeated two or three times, will effect a cure.

Sometimes this disease arises from a spasm, or cramp of the gall-duct. In such a case the infant should be put into the warm bath, and continue in it about ten minutes. The following medicine likewise will then be of service: Take of tincture of castor, a tea-spoonful; tincture of opium, or laudanum, twenty drops. Mix them, and give six or eight drops two or three times a day, out of a spoonful of mint-tea, or any other liquid.

It is observed that women afflicted with the jaundice, during any part of their pregnancy, and even actually brought to bed in that state, do not affect their children, unless they also suckle them; but in that way they are capable of communicating the true jaundice to a great degree; and the disease cannot be removed by medicine, without the suckling mother or nurse is first cured, or the infant is weaned.

Of Wind in the Bowels.

This complaint is almost always attended with costiveness, from which it commonly arises. If the costiveness be constitutional, there is required a stronger dose of the purgative to open the body than in other cases. Instead of five grains, therefore, of the powder of rhubarb, eight or ten may be given; and this should be accompanied with a little calcined magnesia, as costiveness is usually productive of acid or sour humours in the bowels of young children. If the child be so habitually costive as to require the frequent use of purging medicines, it will be better to have recourse to other means of opening the body, as the constitution might be impaired by administering such remedies too freely. A clyster, therefore, occasionally, will be more advisable; or in the room of it a suppository; which may be made of the end of a very small candle. If such a thing should not be at hand, a little slip of paper or linen-cloth twisted up and dipt in oil may be sufficient for the purpose. These means will be assisted by rubbing the belly morning and evening with a warm hand or a piece of flannel, moved in a circular direction, corresponding to the situation of the bowels.

Of the Looseness.

Children are often subject to a diarrhœa, or looseness; but this is not always a disease: for such a discharge may either prevent or remove other complaints, and is hurtful only when it continues so long as to occasion weakness.

CAUSES.—Both vomiting and purging frequently arise from unwholesome milk or other food, and from a moist cold air, as well as from the sudden disappearance of some eruption on the skin. The discharge therefore ought not to be stopped till the cause is removed, and the offensive matter carried off.

CURE.—A dose or two of the powder of rhubarb should first be given, and afterwards absorbent medicines. The following julep is highly advantageous in such a case:

Take of crabs claws prepared two drams; gum Arabic a dram and a half; cinnamon-water and mint-water each four table-spoonfuls; loaf-sugar two drams. Mix.

Two or three tea-spoonfuls of this mixture may be given frequently in the day, first shaking the glass. Should the discharge still continue, on account of the great irritability of infants, three or four drops of the tincture of opium or laudanum may be added to each dose; or instead of it two tea-spoonfuls of the syrup of white poppies.

When the stools appear very slimy, sour, or curdled, or when the child is much disposed to hiccup, the absorbent medicines have great effect, and ought never to be omitted. If to the above quantity of crabs claws and gum Arabic there be added one scruple of ginger or nutmeg, and two drams of sugar, it will make an excellent powder, which may be divided into six or eight doses, to be taken two or three times a day in a little tea or pure water.

Of the Lientery, or Watery Gripes.

In most of the loosenesses of children the stools are thin and watery when the disorder has continued a few days; but in the true watery gripes they are of that consistence from the beginning, or at least very early in the disease: the child looks extremely indisposed, and every thing it takes runs almost immediately through it, as in the lientery of adults. The cure of this disorder should begin with a vomit, which may be repeated with advantage, especially if the stools are of a dark colour and fœtid, or of an offensive smell, as they frequently are in the earlier periods of the complaint. The emetic in this case should be pretty strong, and given in divided doses at the distance of about a quarter of an hour, till it has produced a proper effect.

Take of the powder of ipecacuanha one scruple; pure water one ounce; loaf sugar one dram. Mix.

Two tea-spoonfuls may be taken immediately, and one every hour after till it begins to work, when some thin water gruel should be given to promote its operation. Next day a purge ought to be administered, consisting of six, eight, or ten grains of the powder of senna, according to the circumstances of the child, with a few grains of powdered ginger or cardamom-seeds, a table-spoonful of water, and a small bit of sugar. When the stomach and bowels are cleansed, recourse may be had to the julep mentioned in the preceding article, to which it will be proper to add two scruples of the aromatic confection. In the more advanced stage of the watery gripes, and where the child has reached the age of six or seven years, the following medicine has often been attended with good effect:

Take of Locatellus's balsam half an ounce; conserve of red roses an ounce. Mix them together with a little simple syrup or syrup of sugar.

Of this from the quantity of a horse-bean to that of a nutmeg may be given three or four times a day.

When outward applications can be used with advantage they ought never to be neglected in the diseases of young children; not only because such patients are most incapable of taking medicines by the mouth, but likewise because, their pores being more open than those of others, they are more readily affected by the influence of any thing applied to the skin. For these reasons three or four drams of the compound plaster of ladanum, spread upon leather, and applied to the belly, will prove a very suitable assistant in the cure of the disorder.

As long as the stools continue remarkably sour it would not be safe to give opium or strong astringents: for the acid humours must first be corrected by absorbents, such as the crabs claws before mentioned, and carried off by warm purges. The absorbents may be given in pretty large and repeated doses, and for the purge make use of the following:

Take of senna leaves one dram, cardamom-seeds half a dram. Infuse them for an hour in something less than a gill of boiling water; then strain, and add to the infusion two drachms of the tincture of rhubarb, and a tea-spoonful of the compound spirit of lavender.

Give four tea-spoonfuls immediately, and repeat the dose every hour till the sour smell of the stools appears to be gone. When this happens, have recourse to the prescription next mentioned.

Take of cinnamon-water and mint-water, each four table-spoonfuls; aromatic confection two scruples*; tincture of opium twenty drops; syrup of saffron a table-spoonful. Mix them.

Give three or four tea-spoonfuls every two hours, first shaking the phial till the discharge ceases.

In the advanced stage of watery gripes, or where the disorder is accompanied with great weakness, such a medicine, consisting of aromatics and an opiate, is absolutely necessary.

Complaints of the bowels are frequently owing to improper food, which on this account always demands particular attention. Cow's milk is often found to disagree with children when their bowels are too open; at which times a little mutton-broth deprived of the fat, or beef-tea, is greatly to be preferred. A physician of much experience in the complaints of young children affirms that he knows of no diet so proper for infants who do not suck, or who cannot have enough of the breast, as flour slowly baked for a long time till it breaks into a soft, greyish-coloured powder, and afterwards mixed with cow's milk boiled, the scum being first taken off: the flour and milk should then be boiled a little together till the whole appears like a thin custard. This is a very light and soft food, and sufficiently binding; and he has often known more good from it, than from all the absorbent medicines ever devised. The powder of arrow-root boiled in water, and then mixed with milk, is an admirable remedy when it can be procured genuine.

When the watery gripes, or indeed any violent purging, attacks infants at the breast, the wet nurse ought to be changed, if the discharge of sour humours continue many days, and medicines do not seem to take a proper effect; which they cannot if any offensive matter be continually taken into the stomach. In all complaints of the bowels it is observed that infants are exposed to eruptions on the skin. By this they are so frequently benefited, that, if any kind of rash appears during long or severe purgings, a recovery may almost with certainty be prognosticated. On the other hand, likewise, good effects have often been observed from a purging taking place in some obstinate eruptions of the skin.

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* For scruples, see *Appendix*.

Of Worms.

Worms in the stomach and bowels are a frequent complaint of young children; but all are not equally affected by the presence of this cause; some infants discharging great numbers without any sign of indisposition, whilst others who have apparently very few worms suffer greatly on the occasion. In such a case it is probable that the pains and other complaints arise from some other source. Worms are chiefly of four kinds: the large round worm; the very small maw-worm, or ascarides, resembling bits of thread; the short, flat worm, or cucurbitina; and the jointed, called the tape-worm, or tænia, which is sometimes many yards long. The last kind, however, is rarely found in children. These animals are hurtful in various ways; but principally by sucking up the chyle designed for the nourishment of the child, and by the irritation they occasion. They sometimes likewise have been known to eat their way through the intestines; but this is a very extraordinary occurrence.

Symptoms.—The symptoms of worms are various, and some of them may proceed from other causes. The most certain signs are a fetid breath, especially in the morning; itching of the nose, and of the anus, especially from the ascarides; a very irregular appetite; a large, hard belly; pains in the stomach or belly; sometimes vomiting, but more frequently costiveness or purging, with slimy stools; startings in the sleep, and grinding of the teeth; to which may be added an unhealthy and bloated countenance, with a dark, hollow circle round the eyes. Besides these symptoms there is sometimes a slow fever, with a small irregular pulse, pale urine, a short and dry cough; which last symptom is almost constant where the complaint is of long standing, and has injured the health. In some cases there happen convulsions, epilepsies, and partial palsies of the lower extremities. When convulsions ensue, if the pulse be small, attended with a hiccup, it is almost a certain sign that the complaint is occasioned by worms. The same may be said of a pain at the stomach if it be very violent, sudden, attended with great anxiety, and a hardness and soreness of the parts about the navel. According to Dr. Home, a whitish swelling of the upper lip, and of the nostrils, is a certain token of worms.

Cure.—When worms exist in the bowels they are to be carried off by purgative medicines, to which other remedies are joined, or the latter are given during the intervals of purging. By many the male fern has been extolled as a specific against these vermin. Olive oil likewise has been strongly recommended as being destructive to worms, but castor oil is certainly preferable; because by its purgative quality it also carries them off by stool. Oil, however, of any kind can have very little effect upon them, as they are defended from it by the moisture and slime of the intestines; and the same is the case with lime-water. A very large dose of alcaline or other salt will destroy both the slime or mucus, and the worms together; but it is apt to hurt and inflame the stomach and intestines, and thus produce worse disorders than that which it was intended to cure. Two remedies highly useful in this complaint are worm-seed and cowhage, or cow-itch. Ten or fifteen grains of the former may be given with a little treacle twice a day. With regard to the cowhage, it is the hairy part scraped off from the pods that is to be used. It may be made up with common syrup into the consistence of thin honey, and given in the quantity of a tea-spoonful twice a day. In separating the hairy part of this herb from the pods care must be taken to prevent their penetrating the skin; for they cause an intolerable itching. The best way to perform the separation is to shake the pods in a box.

As a purgative against worms, calomel either alone or joined with the powder of rhubarb is advantageous. Thus, for a child of two or three years old, Take of rhubarb six grains, calomel one grain, mix them, and give the dose in a spoonful of water, or milk.

For preventing the breeding of worms in the stomach and bowels, nothing is better than stomachic bitter medicines, such as the following: Take of Peruvian bark grossly powdered, one drachm and a half; gentian root one drachm; the fresh outer rind of Seville oranges, two drachms; boiling water, one pint. Infuse for twenty-four hours, and strain them through a linen cloth. Two or three tea-spoonfuls of this infusion may be given twice a day.

Instead of water, the same quantity of materials may be infused in a pint of white wine, or brandy, for two or three days, and then filtered through brown paper. The dose of this tincture may be the same as that of the infusion; only, if the tincture be made with brandy, the dose must be weakened, by adding at least an equal quantity of water.

The following outward application, for killing and expelling worms, has been found advantageous.

Take of the powder of dried rue, and Socotorine aloes, each half an ounce—mix, and make them into a plaster with Venice treacle; which apply to the belly, first covering the navel with a little cotton.

For children troubled with worms, fat and greasy aliments are improper. The best diet is broth, with meat of easy digestion; and toasted bread and honey should be used instead of butter, which is extremely pernicious.

Convulsions.

Convulsions consist in an involuntary and alternate contraction of the muscles.

Causes.—They are caused by irritation in some particular part of the body, and are chiefly occasioned by teething; wind pent up; some indigested matter, in the stomach or bowels; and by a rash imprudently repelled. Among the various causes may likewise be mentioned that of foul air, and want of cleanliness in the dress and other accommodations of infants.

Cure.—The cure of convulsions, like that of all other diseases, consists, principally, in removing the exciting causes. When they arise from improper food and indigestion, a gentle vomit should be given. If the irritation be in the bowels, the acrid matter must be discharged by purgatives; and generally the first thing given should be a clyster. Rhubarb and calomel, as prescribed in the case of worms, will here also be proper. But if the disposition to convulsions continues, after the bowels have been properly cleansed, recourse should be had to the medicines of the anti-spasmodic class, or those that are good against cramps.

Take of tincture of asafœtida, half an ounce*; tincture of castor, two drachms; tincture of opium, forty drops. Mix them. Fifteen or twenty drops of this mixture may be taken occasionally in a little mint-tea.

When the convulsions arise from the disappearance of a rash, a little weak wine whey should be given with the mixture, and the child kept warm, to promote perspiration. If they proceed from the stoppage of a discharge behind the ears, it should be recalled by the immediate application of blisters. During the continuance of convulsions, the warm bath is of great service: but for curing a disposition to this complaint nothing is more powerful than sea-bathing, or, in want of it, the cold bath, either of them to be used every other morning for a considerable time.

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* See *Appendix.*

When convulsions arise from teething, the only effectual remedy is lancing the gums. But it is not sufficient once to set free all the teeth that are evidently making their way; for the divided parts soon heal up again, and give rise to fresh irritation. The cutting therefore ought to be repeated for several days successively, if the convulsions do not cease.

If the convulsions do not arise from any of the causes mentioned above, there is reason for supposing the complaint to be a primary disease, and to proceed immediately from the brain. In this case, an attempt should be made to procure a derivation from the head; which is best effected by putting the feet and legs into warm water. Some blood, if the child is able to bear it, ought likewise to be taken away; or leeches may be applied behind the ears, or on the temples. Blisters ought also to be laid on the legs or thighs, and a clyster be given; which, if the convulsions continue, should be followed by a gentle purge. Blistering may be thought harsh treatment in the disorders of infants; but it ought to be remembered that their life is now at stake, and that the temporary pain of blisters is not so intolerable as a violent fit of convulsions.

If children of two or three years old are subject to slight and frequent fits of convulsions, issues or setons should be made between the shoulders, or in the neck, and be kept open for a length of time.

Convulsions arising from any of the causes above mentioned, will sometimes disappear of themselves as the infant gets older. At other times, the appearance of some other complaint has put an end to the convulsions; and sometimes the disorder has been removed even by weaning children, when six or eight months old. In some of the worst cases of convulsions, after all the usual remedies have been tried without success, musk, freely given, has perfectly cured the disorder. Five or six grains of it powdered may be given in a little mint-tea, and repeated two or three times a day.

Though all convulsion-fits are, indeed, in their appearance, extremely alarming, yet experience warrants the conclusion, that under proper treatment they are much less frequently fatal than is generally imagined. Neither is the frequency of their returns during infancy, nor the long continuance of such a disposition, any real indication of future evils. But where the intervals are short, though the fit itself be not long, nor violent, the disease is more dangerous than when severe fits are attended with long intervals.

Dentition, or Teething.

Teething is an important period in the constitution of infants, notwithstanding some writers entertain the contrary opinion. The body, during teething, is much disposed to inflammation; and lusty, strong children often fall into a fever at this time, while those who are weak and delicate cut their teeth easily, though frequently later than the others. It is observed by Hippocrates, "That infants cut their teeth more readily in winter than in summer; that such as are rather inclined to be lean cut them more easily than those that are very fat; and children who are loose in their belly the most safely of all." This period commonly begins between the fifth and tenth months; and the first teething continues, for the most part, to the sixteenth at least, and sometimes much longer.

SYMPTOMS.—Various sypmtoms usually precede and accompany its progress. The child drivels; the gums swell, and become hot; there is often a redness in the cheeks, and eruptions on the skin, especially on the face and head. There is also a looseness, and griping, and the stools are green or pale. The urine, sometimes of a milky colour, is frequently made in less or greater quantity than usual, and accompanied with pain. These symptoms are often followed by a cough, difficult breathing, convulsions, fever, scrofula, and sometimes by water in the head.

CURE.—When teething is difficult, it must be treated nearly as other acute diseases where there is an inflammation of any part. If the child be any way bound, some opening medicine should be given; and if much fever attends, the loss of a little blood, either by the lancet, or by leeches behind the ears, will be necessasy; though children do not bear bleeding so well as other evacuations. Clysters are also highly useful, especially if the urine be sparingly made; in which case, the use of the warm bath will be likewise advisable. Some gentle medicine to promote perspiration should be given. This purpose may be answered by antimonial wine, in the quantity of from six to ten drops, or upwards, according to the age and other circumstances of the child. This remedy has besides the advantage of opening the belly. It may be given in a little balm or mint-tea. If there be any disposition to fits, a blister should be applied between the shoulders; or, instead of this, a Burgundy-pitch plaster will sometimes suffice, and ought to be removed every ten days till the symptoms disappear, or the teeth come into sight.

But if this should not succeed, and the child be seized with convulsions, a blistering plaster ought to be applied between the shoulders, or one behind each ear.

Teething almost invariably begins with the fore-teeth of the lower jaw. After two teeth in each jaw have appeared, it is, in some instances, a considerable time before they are followed by those which are next them; but sometimes, though not often, six or eight are cut in hasty succession. The fore-teeth, or *cutters,* are succeeded by the four *grinders:* then come the *dog-teeth,* as they are called; and, last of all, of an infant's first teeth, their antagonists, or the *eye-teeth;* making in all sixteen.

This is the usual number of children's first teeth; though some infants cut four double teeth in each jaw, instead of two; making the whole number twenty. But an infant has sometimes been known to cut twenty-four teeth.

A symptom less common than any of those above mentioned, and appearing only in certain habits, is a swelling of the tops of the feet and hands. It seems, however, to be of no importance, and goes away upon the appearance of the teeth; though, in some instances, this symptom is accompanied with considerable fever. A transient palsy of the arms or legs has also sometimes been observed during the progress of teething. Those symptoms are often followed by a cough, difficult breathing, convulsions, fever, and scrofula, and sometimes by water in the head.

It is observable, that the extremes of high health, and a sickly disposition, are both dangerous: the former being exposed to acute fever, or convulsions; the other to a slow hectic and consumption. Pure air, therefore, exercise, wholesome food, an open belly, with every thing that has a tendency to promote general health, and to keep off a fever, will greatly contribute to the safety of teething, and to children's passing quickly through this hazardous period.

A purging is found to be of advantage during the progress of teething; and it is surprising how considerable a looseness children will bear on this occasion, as well as how bad the stools will be for many weeks together. The looseness, therefore, is to be cautiously treated, and rather to be encouraged than suppressed.

For the fever accompanying teething, besides bleeding, the absorbent powders, such as crabs claws prepared, are eminently useful, and are, in various respects, calculated to afford relief. To these, sometimes, a grain or two of Dr. James's powder may be added at bed-time. One, two, or three grains of nitre are very often useful, joined with the powders just now mentioned, in the quantity of eight or ten grains; or with four or five grains of the compound powder of contrayerva. Sydenham directs two, three, or four drops of the spirit of hartshorn to be given in a simple water, every four hours. Nor is a drop or two of ladanum to be feared, if the bowels have been opened, the pain be very great, and the breathing not difficult. A free discharge of the bowels, however, must, above all, be preserved, when teething is attended with a fever. The state of their gums must also be carefully attended to, or it is a chance that their fevers may be mistaken, and imputed to cold, or other causes, when the source of the disorder is entirely in the pain of the gums.

It is admitted that the lungs is one of those parts which are apt to be affected by the pain of teething; and, when this happens to be the case, the symptoms have an alarming appearance. A precise acquaintance with their true cause is, therefore, of the greatest importance; otherwise, an unsuccessful plan of cure will most probably be adopted.

In such cases, we sometimes meet with the most alarming symptoms of an inflammation of the lungs; soreness of the breast, or sides; cough; great dificulty of breathing, with loss of appetite, continual fever, and the appearance of general decay. In this state, purging the bowels, and properly lancing all the suspected parts of the gums, have given immediate relief; and, by keeping up the purging for three or fonr days, every threatening symptom has so thoroughly abated, that, in a fortnight's time, a child, expected from day to day to die of inflammation, or fall into a consumption, has been restored to its former health and spirits.

It ought to be a general rule, during the time of teething, to abate a little of the usual quantity of food, and to increase the quantity of drink, unless the child is very weakly, or every thing goes on perfectly well. If the child be at the breast, a regard of the same kind ought to be paid to the diet of the nurse.

Children will sometimes have ulcerated gums in teething, and more frequently where they have not been lanced; which are easily cured by keeping the body open, a d touching them with a little white vitriol, or roch alum. As much as will give a moderate roughness to a little honey is commonly sufficient for this purpose.

Hydrocephalus, or Water in the Head.

This complaint is distinguished into two kinds; namely, the external and internal: in the former, the water lies upon the surface of the brain, but in the latter it is seated much deeper.

SYMPTOMS.—In both kinds, the disease commonly begins with the appearance of a slow fever, a weakness of the arms, and pains in the limbs; as also, frequently, in the upper part of the neck. In some time after, the child is suddenly seized with pain in the head, generally in the fore-part: it becomes heavy and dull, and can bear no posture but that of lying horizontally, or flat. The pulse becomes irregular, but commonly very slow. As the disease advances, the faculties and senses are impaired, and the eyes are offended by the light; the patient sees objects double, and becomes delirious. In the further progress of the disease, the pulse grows frequent, the cheeks become flushed, the pupils of the eyes are enlarged, the stools and urine come away involuntarily, and the child lies sleeping, or is convulsed.

CAUSE.—This disease commonly takes place between two and ten years of age, but is not universally confined within that period. It may arise from falls and blows on the head, from tumours within the skull, and from a watery state of the blood, and a lingering illness. This is sometimes a very short disease, and, at others, continues many months; but, in either case, ending for the most part fatally.

CURE.—Whatever may be the immediate cause of the hydrocephalus, in attempting to cure it, practitioners have chiefly depended on repeated bleedings; purges with jalap, or calomel; blisters to the neck, or head, with medicines to promote the discharge of urine, and the outward use of mercurial ointment. Some have, from experience, recommended the use of sternutatories, or sneezing-remedies; such as the compound powder of asarum, or white hellebore. To these means may be added, the application of a narrow caustic upon the head, along the whole course of the longitudinal sinus, instead of a small blister to the crown, as some have advised.

Aphthæ, or the Thrush.

SYMPTOMS.—This disorder generally appears first in the angles of the lips, and then on the tongue and the inside of the cheeks, in the form of little white specks; which sometimes extend to the stomach, and along the whole length of the intestines. If the specks are of a pale colour, superficial, and easily fall off, they are reckoned not dangerous; but the contrary is the case when they are thick, brown, or black, and run much together.

CAUSES.—This complaint seems to be occasioned originally by indigestion. Some ascribe it to the taking of victuals either too hot in themselves, or of too heating a quality, especially when made very sweet. When the thrush attacks strong infants of a costive habit of body, it is easily cured, and requires little more than keeping the bowels sufficiently open; for which purpose, the daily use of castor-oil is very advisable. But the complaint is not void of danger in delicate infants, whose bowels are weak.

CURE.—When the thrush is not attended with any fever, or other uncommon symptom, the testaceous powders, such as that of crabs claws, are the best and safest remedy. To this may be joined a little calcined magnesia, if the child be costive: but if, on the contrary, it is loose in the belly, and weakly, two or three grains of the compound powder of contrayerva may be added instead of the magnesia. This medicine should be given for three or four days successively, and afterwards something more purgative, to carry down the sloughs as they fall off. Rhubarb, to which a grain of calomel may be joined, is generally the best for this purpose. In delicate and weak infants, where the disease is of a bad kind, a decoction of Peruvian bark with aromatic confection is found the best remedy. It may be made as follows:

Take of Peruvian bark, half an ounce. Boil it in a pint of water to a gill and a half; and, after straining, add of aromatic confection, one drachm and a half.

The quantity of four tea spoonfuls to be given every four or five hours.

If the inside of the cheeks and tongue are thickly covered with sloughs, it may be convenient to clean the mouth two or three times a day, with a little roſe water, in which some honey and a little borax is dissolved; but any rash application is in general improper, till the sloughs are disposed to fall off, and the parts underneath inclined to heal. When a gangrene is apprehended, some spirit of salt, or vitriol, should be added to those applications, and the use of the Peruvian bark be persisted in.

Of the Hooping-Cough, or Chin-Cough.

SYMPTOMS.—This disorder often begins as a common cold, but in its progress soon becomes more severe. From the beginning it is accompanied with a greater difficulty of breathing than is common in a cold; and there is a remarkable affection of the eyes, as if they were swelled, and a little pushed out of their sockets. The fits of coughing become gradually more violent, till at last they are plainly convulsive. The disease is tedious, and sometimes continues many months, but not commonly attended with a fever, though an infectious disorder. Like other contagious diseases occurring to a person only once, it may naturally be expected to be more frequent in childhood than in any other period of life. In general, whatever weakens the body promotes a disposition to this complaint. It is often observed to be more dangerous in one season than at another. Its effects are commonly worst in children under two years of age, whom, if it continues long, it is apt to render scrofulous or rickety.

CURE.—The disease proves most favourable when the fit ends by vomiting; which seems to point out the benefit of promoting such a discharge. Bleeding, however, when the cough is violent, and the child in danger of being suffocated, ought certainly to be performed, especially if there be a fever, attended with a hard full pulse. The next object in the cure is to give a gentle vomit for cleansing the stomach, which is here generally loaded with tough phlegm. The belly is next to be kept gently open with rhubarb; and both the vomit and purge must be repeated as occasion requires, but always by the gentlest means. It is of great advantage to bathe the feet every day in warm water, and to keep a Burgundy-pitch plaster constantly applied between the shoulders: but, instead of the latter, when the disease is violent, recourse should be had to a blistering-plaster, and the part be kept open for some time by means of issue-ointment. Eight or ten drops of antimonial wine, given two or three times a day, is frequently of great service.

The practice has hitherto been common to give oily and balsamic medicines in this disease; but they certainly are extremely hurtful by loading the stomach and bowels, which are already too much oppressed with phlegm. A far more suitable remedy is Peruvian bark, and castor.

Take of the powder of Peruvian bark, two drachms; of castor, two scruples; spearmint water, half a pint; syrup of sugar, two table-spoonfuls. Mix them.

To a child about four years of age, three tea-spoonfuls may be given every four or five hours; and the dose proportionably increased, or diminished, to those of a less or greater age. A change of air is of great advantage in the decline of the hooping-cough, and even after its first seizure, when the child can be conveniently removed. It would seem as if the disease was supported by its own infectious air, when the child is kept long in the same place. The diet, in this disorder, ought to be of the lightest kind. Little more than milk and broths should be given to children even of five or six years of age; and no greater quantity than a tea-cupful taken at a time.

The Croup.

The Croup has never been noticed in Great Britain before the present age, and there is yet a difference of opinion respecting both its real nature and the method of cure. According to the most prevailing opinion, however, it consists of an inflammation of the upper part of the trachea, or wind-pipe, accompanied with an uncommon secretion of mucus or phlegm from that part. It seldom attacks infants till after they have been weaned, and becomes less frequent as children advance in years; hardly ever appearing in any who have reached ten or twelve years of age. It is more frequent in winter than in summer, and more common upon the sea coast than in the midland counties.

SYMPTOMS —It generally comes on with a hoarseness, a pain about the top of the wind-pipe, and a difficulty of breathing, attended with a peculiar kind of croaking noise, that may be heard at a considerable distance. The pulse is quick, with much heat, and the patient is restless.

CURE.—If the patient be of a full habit of body, as is commonly the case in this disorder, and the fever runs high, or the breathing be very difficult, it is proper to bleed, and apply leeches to the pained part: after which a blister should be laid over it; and if the difficulty of breathing continues, another blister between the shoulders.

Upon the first attack of the disease, it is often of great advantage to give a vomit, immediately after bleeding; which has sometimes so good an effect, as almost immediately to remove the complaint. If this should not happen, the vomit must, nevertheless, be repeated; and this as often as the continuance of the difficulty of breathing shall give reason to think that a fresh accumulation of phlegm has taken place in the wind-pipe. This frequent repetition of emetics is absolutely necessary while the symptoms continue violent. The body, in the mean time, is to be kept open by laxative clysters; and the feet and legs ought to be put twice a day into warm water.

Though this disease be of the inflammatory kind, it seldom ends either in a suppuration or gangrene. Its common effect, when fatal, is to suffocate the patient by the violent disorder in the wind-pipe. But if it terminates favourably, the inflammation is resolved; as is likewise the spasm, or cramp, at the top of the wind-pipe; sometimes with a considerable discharge of phlegm from the throat, and at other times with little more than what happens in a common cold.

Such is the treatment of the disease, when purely inflammatory; but in other cases, where it is almost entirely spasmodic, proceeding as it were from a cramp of the throat, the method of cure is very different. Here the remedy most generally recommended is asafœtida, two drachms of which may be dissolved in four table spoonfuls of mint-water, and the same quantity of penny-royal-water. A table spoonful of this mixture may be given every hour, or oftener, if the patient's stomach can bear it. Some children are extremely averse to it, while others take it not only without disgust, but even with great pleasure. But where they cannot be prevailed upon to take it by the mouth, it ought to be given in a small clyster, in the quantity of two drachms at a time

The tincture of opium may be given with the same intention, in the quantity of six or eight drops every two hours, until sleep, or a remission of the constriction, take place.

To prevent a return of this disorder, a seton between the shoulders, or an issue in the arm, is advisable. Children who are disposed to it, should be guarded as much as possible against catching cold, and likewise against the use of such aliments as are crude, or of difficult digestion.

Rickets.

CAUSES.—The Rickets is said to have been unknown in this country, till about the year 1628, when, upon the advancement of manufactures, people left their occupations in the country to settle in large towns. There wanting that exercise, and pure air, which they had formerly enjoyed, their strength declined, and of consequence they produced a weak and sickly offspring. It is certain that the disorder arises frequently from unhealthy parents, especially from mothers who pass too sedentary a life in a bad air, and use a crude and watery diet. The same unwholesome air and diet affect still more the tender bodies of their children; on which account it is observed that the children of poor people are particularly liable to the Rickets. From improper food and weak digestion, their stomach and bowels are loaded with undigested juices; an universal thickness of the fluids prevails, in the extreme vessels, especially of the joints; from too languid a circulation the humours become depraved, and an almost general obstruction takes place in the fibres of the muscles.

SYMPTOMS.—The Rickets seldom attacks children under nine months; from which period to two years old the disorder usually breaks forth and shows itself chiefly by the following signs: The child's flesh becomes soft and flabby; the face appears full, and the head and belly increase in a proportion beyond the other parts of the body. The bones next begin to be affected, the knees, wrists and ancles become thicker than usual; the bones of the arms and legs become crooked; the spine or back bone is altered from its natural shape, as is likewise the appearance of the breast.

Such are in general the symptoms, but they vary in different children according to the violence of the disease. The appetite and digestion are commonly bad; the teething is slow and difficult; and after the teeth have appeared, they are seized with rottenness, and fall out. Rickety children usually discover a degree of understanding beyond their years.

The cure of this disorder ought to be begun with cleansing the stomach and bowels by gentle vomits of ipecacuanha, and purges of rhubarb and calomel, such as have been repeatedly mentioned above: after which the constitution is to be strengthened by stomachic bitters, the Peruvian bark and steel medicines, compounded in the following manner:

Take of the root of the sweet-scented flag, and gentian-root, each three drachms; Peruvian bark, in powder, half an ounce; iron filings, tied up in a linen bag, six drachms; Spanish white wine, or Lisbon, one quart. Digest for the space of three days, and then filter the tincture. Four tea-spoonfuls of this tincture may be given twice a day.

Nothing is more effectual in this disease than the cold bath, but it ought not to be used at the same time with the Peruvian bark and steel; and the winter is not the most proper season for it. Rubbing the back and belly, in particular, with flannel and aromatic powders, or the fumes of frankincense, mastic and myrrh, will tend greatly to promote the cure by strengthening the body.

The diet ought to be nourishing, and rather of a dry than moist kind. For drink, wine mixed with water is preferable to malt liquors: but of the latter, good porter is the best.—Dry air, and exercise, especially riding on horseback, are highly advantageous.

Scrofula, or King's Evil.

SYMPTOMS.—This disease is one of the most obstinate that affects the human frame, and of all others it is the most generally handed down by parents to their offspring. Sometimes, however, it will lie concealed for one or two generations, and afterwards appear with redoubled violence. It is originally a disorder of those parts of the body called glands, but in process of time seizes others. It is often preceded by a peculiar look about the eyes, which are generally large, and a thickness of the upper lip. The belly is sometimes observed to be hard and enlarged, and there is a remarkable softness of the skin. The disease is not usually fatal at an early period, but may prove the cause of bad health even to the end of life. It often disappears, however, about the age of fourteen or fifteen, and sometimes sooner, especially in females. On the other hand, after disappearing for several years, during which the health has been perfectly good, the humour has unexpectedly fallen upon some inward part, occasioning various complaints, often ascribed to other causes, and has in the end produced a consumption of the lungs or some other fatal disorder.

Cure.—This disease has such an affinity to the rickets in the causes which commonly produce it, namely, bad diet, and a weakness of constitution, that it requires in great measure the same method of treatment, so far as relates to a diet of easy digestion, and to medicines for strengthening the body, as well as to keeping always the stomach and bowels free from impurities. Bark and steel are also excellent remedies, but nothing is better than sea-bathing. In children of a gross habit of body a glassful or more of sea-water drunk in a morning has often produced good effects; as has also lime-water* used for common drink.

The use of hemlock in this disease both inwardly and outwardly used has been much recommended by some writers, but the most extraordinary instances that we meet with of success are some cases in which the inhaling of vital or superoxygenated air has performed a perfect cure, after all the usual remedies had been tried to no purpose. This unexpected discovery is of singular importance; and if fully ascertained by a greater number of trials will serve to extirpate a disease, which has hitherto generally baffled the utmost efforts of medicine.

The Moffat and Harrowgate waters are likewise highly serviceable in the scrofula, when used for a considerable time; but they ought only to be taken in such a quantity as to keep the body gently open.

The method too frequently practised of plying the patient with strong purgative medicines, from a notion of discharging the humours, deserves to be severely condemned, as it weakens the constitution, and thereby increases the disease. That the body ought indeed to be kept open has been already observed; but for this purpose the gentlest means only are advisable. Dr. Underwood very properly recommends one drachm of cathartic salt dissolved in a pint of water, to be taken every day as common drink. This quantity of salt will give very little taste to the water, and we are told that in some instances it has alone had a good effect in subduing the disease, especially in stronger children, and such as are otherwise healthy. In those, however, of a delicate and spare habit of body, remedies that warm and strengthen the constitution, such as aromatics, with the bark and steel as before mentioned, are chiefly to be employed. But while these are used, and still more if the use of them be interrupted, the strictest attention should be given to the diet of a scrofulous patient; as otherwise no medicines, however well suited to the disease, can produce the desired effect. Let all meats, therefore, that are hard of digestion be avoided, and the diet be wholesome, generous, and nourishing; for more depends upon a proper regulation in this respect than is commonly imagined: but sea-bathing in this disorder can never be enough recommended.

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* Lime-water is made in the following manner: Take of quick-lime one pound, boiling water a pint and a half; pour the water gradually upon the lime, and ſtir them together; then let the water be filtered through paper, and kept in a veſſel cloſely ſtopped.

Small-Pox.

Though the small pox sometimes seizes persons at a late time of life, it is however chiefly incident to children, and is one of the most fatal disorders to which they are liable. It appears generally in the spring, from which time through the summer it increases in frequency, till autumn advancing it begins to decline, and in winter either entirely disappears or spreads its contagion more slowly.

There are, besides some inferior divisions, two principal kinds of this disease; namely, the distinct and the confluent, the latter of which is always attended with danger.

SYMPTOMS.—On the approach of the disease children generally discover a drowsiness, after which come on the symptoms of an inflammatory fever, accompanied with fits of cold and heat by turns. There is a pain in the head and back, sickness and pain at the stomach, and sometimes vomiting; costiveness generally prevails; and sometimes the patients are attacked with convulsive fits, which in this disorder is always considered as a good sign. A fever is now formed, accompanied with a great heat of the skin and restlessness: the child wakes out of his sleep with a sudden start, which, as well as convulsive fits, is a sign that the eruption is on the point of making its appearance. This generally happens about the third or fourth day from the time of sickening: sometimes they appear sooner, but the disease is then judged to be of an unfavourable kind. They are first discovered like flea-bites on the face, arms, and legs, extending successively over the body to the feet, and are accompanied with pains and soreness of the throat, which is commonly in three or four days.

As soon as the eruption is completed the fever disappears or abates. The most favourable kind of pustules are those which are distinct, with a florid red base, and which fill with a thick, purulent matter, first of a whitish, and afterwards of a yellowish colour. Pox of a livid brown colour, or which are small and flat, with black specks in the middle, are unfavourable; and such as contain a thin, watery humour, yet worse. It is a bad sign when they run into one another; and a great number of pox on the face is accounted a dangerous symptom: but the most unfavourable circumstance of all is when purple, brown, or black spots are interspersed among the pustules, as they afford a sign that the blood is in a putrid state. Other bad symptoms are bloody stools or urine, with a swelled belly. Pale urine, accompanied with a violent throbbing of the arteries of the neck, are signs of an approaching delirium, or of convulsion fits. When the face does not swell, or falls before the pox comes to maturity, it gives just ground for apprehending an unfavourable event; but when at the same time that the face falls, which is about the eleventh or twelfth day, the hands and feet begin to swell, the disease proceeds well. Cold shivering fits coming on at the height of the disorder, with a brown crust on the tongue, are both unfavourable symptoms; as is likewise a grinding of the teeth, when this proceeds from an affection of the nervous system, and is not occasioned by worms or any disorder of the stomach. About the seventh day from the eruption, sometimes the ninth, the pustules dry, or *turn* as it is called; and, scaling off, leave red marks, and sometimes pits behind them.

CURE.—During the eruptive fever the patient ought to be kept cool and easy, and allowed to drink freely of barley-water, balm-tea, gruel, or other diluting liquors; his food should be very light: he ought not to be confined to bed, but sit up as much as he is able, and should have his feet and legs bathed frequently in water agreeably warm.

It is a common prejudice among the lower class of people, that the linen of the children should not be shifted through the course of the disease, lest they catch cold: but this is a most pernicious as well as loathsome practice; for the linen being hardened by the moisture which it absorbs frets the tender skin, and creates much uneasiness, at the same time that the vapours rising from the dirty linen again enter into the body, and increase the disease. Shifting at this period is highly necessary, but doubtless care ought to be taken that the linen be thoroughly dry; with which caution, and shifting likewise when the patient is most cool, no danger needs to be apprehended.

When this disease proceeds in a favourable manner, it would only be disturbing the salutary efforts of nature to ply the patient with medicines. Bleeding is seldom necessary in infants, though it is sometimes proper and requisite in those who have passed the age of childhood. During the first three or four days of the disease a cool treatment is to be carefully observed, to prevent too great an eruption; but after the pox have made their appearance, the physician's business is to promote the suppuration by light food, and such diluting drinks as have been already recommended; and should nature flag in this important process, her efforts must be assisted by suitable cordials; such as wine made into negus, and sharpened with the jelly of currants, the juice of orange, or the like. Wine-whey is also proper in this case; but care must be taken not to over-heat the patient by those cordial remedies; for such conduct, instead of promoting, would actually retard the eruption, and might be productive of dangerous consequences.

The same cautions are to be observed during the maturation or ripening of the small-pox. The chamber ought to be kept cool; the patient be lightly covered when in bed, and be likewise occasionally taken out of it. The filling of the pox is often prevented by great restlessness; and when this happens gentle opiates are necessary. A tea-spoonful of the syrup of poppies may be given to an infant every four or five hours, till the symptom is removed.

It often happens in the small-pox that the patient is troubled with a strangury, or suppression of urine. In this case he should be frequently taken out of bed, and if he be able, it is found of advantage to walk across the room with his feet bare. When this cannot be done, he ought to be frequently raised on his knees in bed, and should endeavour to pass his urine in that situation. A plentiful discharge of urine is highly beneficial in the small-pox; and when it does not ensue naturally, a tea-spoonful of the sweet spirits of nitre should be mixed with his drink occasionally.

During the rising of the small-pox the patient is generally costive, to such a degree as not to have a stool for eight or ten days. It may well be imagined, that this extreme constipation, in a feverish disorder, must prove highly prejudicial. It not only tends to heat and inflame the blood, but from the sharp and putrid nature of what is thus unduly retained in the bowels very bad effects may ensue. In such circumstances a softening clyster should be given, every second or third day through the whole course of the disease; by which means the patient will be cooled, and otherwise greatly relieved.

When purple or black spots appear among the small-pox, the Peruvian bark must immediately be given in as large doses as the patient's stomach can bear, and be likewise frequently repeated; by which the happiest effects may be produced.

Take of the powder of bark two drachms; pure water six table-spoonfuls; cinnamon-water half a gill; syrup of orange, or lemon, two table-spoonfuls. Mix them.

This may be sharpened with the spirits of vitriol, and a table-spoonful of it given to an infant every hour. Spirit of vitriol, or instead of it vinegar, the juice of lemon, or currant jelly, ought also to be mixed with the patient's drink, which in this case should be wine or strong negus. The diet must consist of fruits of an acid nature, such as apples, roasted or boiled, preserved cherries, plums, and the like.

The same method of treatment with respect to the bark and acids, is likewise to be pursued in what is called the lymphatic or crystalline small-pox, where the matter is thin and watery; for they render the consistence thicker, and promote a kindly maturation. When the small-pox strike in, as it is called, or the pustules suddenly sink and become flat before they have arrived at maturity, the case is extremely dangerous. As soon as this happens, blisters ought to be applied to the wrists and ancles, and the patient be supported by cordials: sharp poultices likewise composed of mustard-seed, oatmeal and vinegar, may be applied to the feet and hands, to promote the swelling of those parts, and draw the humours towards the extremities.

The most dangerous period of the small-pox is what is called the secondary fever, which generally comes on when the pustules begin to blacken or turn on the face; and most of those who die of the small-pox are carried off by this fever. At this critical period nature frequently attempts to relieve the patient by loose stools; and this salutary effort ought by all means to be assisted; supporting the patient at the same time by food and drink of a nourishing and cordial nature.

On the approach of the secondary fever, if the pulse be very quick, hard and strong, the heat very great, and the breathing laborious, accompanied with other symptoms of an inflammation of the breast or lungs, blood must immediately be drawn, in a quantity suitable to the urgency of the case, and the strength and age of the patient; but if on the other hand the sick be faintish, the pox become suddenly pale, and there be great coldness of the extremities, blisters must be applied, and the patient supported with generous cordials. In such cases, wine, and even spirits, have sometimes been given with the best effect. The secondary fever arising in great measure from the matter of the pox being absorbed into the body, it would be extremely advisable to open the pustules, and let the matter out; by which the danger at this period might be lessened, if not entirely removed. Very little art is necessary for such an operation; and it ought to be done when the pox begin to be of a yellow colour. It may be performed either with a lancet or needle, and the matter cleared away with a little dry lint. As the pustules are generally first ripe on the face, it will be proper to begin in that part, and afterwards to proceed regularly downward: but once to perform the operation is not sufficient; for the pustules generally fill again a second or even a third time. Besides the beneficial effects of this practice in diminishing the fever, it tends to prevent the pitting, which is an object of some consideration.

After the small-pox it is proper to give a gentle purge two or three times, at the distance of a few days between each; but if, notwithstanding this precaution to carry off the dregs of the disease, it should be succeeded by a cough, a difficulty of breathing, or other signs of a consumption, the patient must be put upon a course of asses milk, with such exercise as he can bear; and it is of importance that he should be sent to a place where the air is dry and wholesome.

It often happens that imposthumes or swellings are formed in some part of the body after the small-pox. In such a case the swelling, if the means employed to discuss it fail, must be brought to a head as soon as possible, by means of poultices; and when it has been opened, or has broke of itself, the patient must be purged. In these circumstances, the Peruvian bark and a milk diet are highly advisable.

Inoculation.

The method of communicating the small-pox by inoculation has been practised from time immemorial in the eastern countries, where it is regarded as so simple an operation that in many parts the women perform it. Various prejudices have hitherto concurred to obstruct its progress in this country, but they now appear to be diminishing; and there is reason to expect, from the example of those who are more liberal in their opinions, that in the course of some years the practice, if not universally adopted, will at least become very general. Could the minds of people be influenced by the force of reason alone, they could not hesitate a moment to determine on embracing the practice of inoculation. So evidently great is the advantage of it in saving the lives of children, that while in the natural small-pox not more than one patient out of four survives the disease, it is a chance if one in five hundred be cut off in consequence of inoculation. This fact is of itself a sufficient argument to establish the usefulness of the practice.

With regard to the manner of inoculating, nothing can be conceived as more easy. In some parts of the world it is performed by rubbing the variolous matter upon the skin; and this is generally successful in communicating the disease. But the method of inoculating at present in this country is, to take a little matter from a pustule when the pox are fully ripened, on the point of a lancet, and insert it in the arm, by making one or two small incisions between the true and scarf skin, which may afterwards be pressed down with the flat side of the lancet. In three or four days after the part appears inflamed, and in about three days more the symptoms of infection come on. But if fresh matter be applied long enough to the skin, there is no occasion for making any puncture at all. Let a bit of thread, about half an inch long, wet with the matter, be applied to the arm, mid-way between the shoulder and the elbow, and covered with a bit of common sticking plaster. In eight or ten days this method will seldom fail of communicating the disease.

The most proper season for inoculation is when the weather is temperate and healthy; and the fittest age between three and five years. Many approve of inoculating even on the breast; but children are more liable to convulsions at this time than afterwards; and if the child should seem to be in any danger, the anxiety of the mother or nurse, by spoiling the milk, could not fail to heighten the disease.

Very little preparation of the body is necessary previous to inoculation. In children who have been fed on simple and light diet, such as milk, panada, weak broths, bread-pudding, mild roots, and white meats, no change of diet is necessary. But those who have been accustomed to richer food, and are of a gross habit of body, or abound with bad humours, ought to be put upon a spare diet, for a fortnight or three weeks before inoculation. Their food should be light, and not of a heating quality; and their drink whey, butter-milk, milk and water, or the like. There is no occasion for the use of medicines before inoculation; but two or three mild purges, suited to the age and strength of the patient, should be given. When the signs of infection have begun to appear, the proper management is to keep the patients cool, and their bodies gently open; by which means the fever is kept low, and the eruption greatly lessened. The fever proceeds very moderately when the pustules are few, and their number is generally in proportion to the degree of fever which precedes or attends the eruption. The food and drink during the disease are to be regulated in he same manner as in the natural small-pox; and the same s to be said respecting medicines should any bad symptoms appear, which is seldom the case. Purging, when the disease has ceased, is here likewise no less necessary than in he former kind of disease.

Of the Cow-Pox, and its Inoculation.

In the preceding article, I have given place to the method f inoculating for the small-pox, as having hitherto been successfully practised during a number of years; but, by a fortunate discovery, it is now found, that infection may be introduced in a manner equally successful, and the disease rendered still less considerable than by the former kind of inoculation. This is done by inoculating with matter either taken rom a cow affected with the disease, or from some person who had received the infection originally derived from that nimal. It may be proper here to give a general account of e manner in which so surprising a discovery has been made.

In several parts of England, where cows are kept for the purposes of the dairy, a peculiar eruptive disease has been occasionally observed among the herd, and which affects in particular the udders and teats of those animals. It has, therefore, pretty generally obtained the name of the *cow-pox, (vaccinia,* or *vacciola.)*

Till within these last two years, the knowledge of this distemper has been chiefly confined to the people employed in the dairies, and to farriers and cow-doctors in the neighbourhood; but, by the latter, it appears to have been observed with particular accuracy, and they have even employed means for its removal.

It farther appears, that wherever the existence of this disease was known, the fact was likewise ascertained, that the disorder is communicated by the touch to the milkers who handle the teats of the diseased cows; and from them again is often spread through a numerous herd: that, when affecting the human species, it is not merely confined to the local disease of the hands and arms, but also occasions a general indisposition, often severe, but never fatal, which runs a regular course; and that the person who has once undergone the disease so communicated is ever after secure against the infection of the small-pox, either in the natural way by contagion, or by inoculation.

All these circumstances, however, though known, as we are told, from time immemorial in certain parts of the kingdom, still remained in obscurity till within these three years, when Dr. Jenner, of Berkley, in Gloucestershire, conceived the important idea of employing the cow-pox to annihilate the small-pox, and published several interesting particulars concerning this disease, which works have now made it known to the public in general.

It appears, from observations made by those who are most conversant with cows, that several causes may produce sores upon the udder and teats of this animal, especially such as excite any irritation in those parts, during the season when the cows abound most in milk. The stinging of flies, or rough handling while milking, and other such external irritations, will often occasion small white blisters on the parts; which, however, never extend more than skin-deep, and are generally easy of cure.

Another, and a more serious disorder in those parts, is said to be sometimes produced by suffering a cow, while in full milking, to remain for a day or two unmilked; in order to distend the udder when naturally small. This, it appears, is a common artifice practised at fairs and cattle-markets, with the view of increasing the price of the cow, a large udder being reckoned an important circumstance in the value of that animal. By this cruel and unwarrantable artifice, the vessels that supply the udder are kept for an unusual length of time in a state of great distension, which terminates frequently in a violent inflammation of those parts, succeeded by large eruptions upon the teats and udder that sometimes leave deep and troublesome sores. The matter discharged from these ulcers will communicate a disorder, like the other, into the hands of the milkers, when the skin is broken in any part; and often produces foul and extensive ulcers, which sometimes occasion pustules on the arms and shoulders, and prove tedious and difficult of cure.

The genuine cow-pox, however, is a distinct disease from those which have been just mentioned. It generally makes its appearance in the spring, and shows itself in irregular pustules on the teats or nipples of the udder. They are at first of a palish blue, or rather a livid colour, and contain a thin, watery, and sharp fluid. The surrounding parts are inflamed and hardened. These pustules, it seems, are very apt to degenerate into deep corroding ulcers, which, as the cow-doctors term it, *eat into the flesh*, and constantly discharge a matter, which commonly increases in thickness, and hardens at last into a scab. Now and then the cow becomes evidently indisposed, loses her appetite, and gives less milk than usual; but it often happens that the disorder, though severe, is entirely local.

It appears that the cow-pox never proves fatal to cows, nor is it infectious in the usual manner of contagious distempers, but can only be communicated to them or to the human species by actually touching the matter which proceeds from the sores. Hence the cows which are not in milk escape the disease entirely, though constantly in the same field with those that are highly infected; and it seems to be only from the circumstance of the milker handling the teats of the sound cows, after touching the diseased, that the cow-pox ever spreads among the herd.

We are informed that the cow-pox is familiar to the inhabitants of the hundred of Berkley in Gloucestershire. It has likewise been discovered in various parts of the counties of Wilts, Somerset, Buckingham, Devon, and Hants; in a few places of Suffolk and Norfolk, where it is sometimes called the *pap-pox*; and in Leicestershire and Staffordshire. Nor is it unfrequent in the very large milk-farms contiguous to the metropolis on the Middlesex side. It is here observed generally to attack first some cow newly introduced to the herd, and is supposed to originate in a sudden change from a poor to a very rich and partly unnatural diet, which it is the practice to use, in order to bring the yield of milk to its highest point.

According to Dr. Jenner, the origin of the cow-pox is ascribed to a derivation from the horse. The horse is well known to be subject to an inflammation and swelling in the heel, called *the grease*, from which is discharged a very sharp matter, capable of producing irritation and ulcers in any other animal to the surface of which it is applied. It is supposed that this matter is conveyed to the cow by the men-servants of the farm, who, in several of the dairy counties, assist in milking. One of these, having dressed the horse, goes immediately to his occupation of milking; and having upon his hand some particles of the discharge from *the grease*, he of course applies it to the udder of the cow, where, if the animal be in a state for receiving the infection, it produces that specific change in those parts which gives rise to the disease of the cow-pox.

The origin here ascribed to this disorder is principally founded on the circumstance that, wherever the cow-pox appears, the *grease* is generally found to have preceded it; and the opinion of the propagation of the disease from the horse to the cow is likewise current in some of the dairy counties where the disease is known. But this opinion requires to be ascertained by further observations.

This conjecture respecting the origin of the cow-pox was no sooner started by Dr. Jenner, than attempts were made repeatedly, but without success, to introduce the disease in the nipple of the cow by direct inoculation of the recent matter of the *grease* from the horse's heel. The consequence of this experiment, when it took any effect, was a slight inflammation, and the production of a small pustule or pimple, but which disappeared in a few days without exciting the specific disease of the pox. But the failure of these experiments by no means overthrows the opinion for the ascertainment of which they were made; since it is admitted that a certain predisposition in the constitution of the cow to receive the disease is also requisite for its production.

It is remarked, that the matter discharged from the sores in the horse's heel is likewise found to occasion, at times, very troublesome ulcers on the hands of the men that dress them, attended with a very considerable degree of indisposition; both of which appear to be full as severe as in the genuine cow-pox, and in many points to resemble this latter disorder. But the person who has been infected by the horse is not rendered thereby entirely secure from afterwards receiving the small-pox.

The pustular sores on the udder and teats of the cow, that constitute the genuine cow-pox, whatever be the way in which they are produced, are found by experience to possess the power of infecting the human species, when any part of the body, where the skin is broken, or naturally thin, comes into actual contact with the matter which they discharge. Hence it is, that, with the milkers, the hands are the parts that acquire this disorder accidentally, and it there exhibits the following appearances: Inflamed spots begin to appear on the hands, wrists, and especially the joints and tips of the fingers; and these spots at first resemble the small blisters of a burn, but quickly proceed to suppuration. The pustule is quite circular, depressed in the middle, and of a blueish colour, and is surrounded with a considerable redness. The blue colour which the pustule almost invariably assumes, when the disorder is communicated directly from the cow, is one of the most characteristic marks by which the cow-pox may be distinguished from other diseases which the milkers are likewise liable to receive from the cow. The matter of the pustule is at first thin and colourless; but, as the disorder advances, it becomes yellower and more purulent. In a few days from the first eruption, a tenderness and swelling of the glands in the arm-pit comes on, and soon after the whole constitution becomes disordered, the pulse is increased in quickness, hiverings succeed, with a sense of weariness, and pains bout the loins, vomiting, head-ach, and sometimes a light degree of delirium.

These symptoms continue with more or less violence from ne day to three or four, and, when they abate, they leave ores about the hands, which heal very slowly; resembling, n this respect, the ulcers on the nipple of the cow, from hich they derive their origin.

It is to be observed, that the cow-pox eruption, though ery severe on the hands, and occasioning much general illness, never produces a crop of pustules over distant parts of the body, arising spontaneously, as in the small-pox. It often happens, however, that pustules are formed in various parts which accidentally come in contact with the diseased hands, as on the nostrils, lips, and other parts of the face where the skin is thin; or sometimes on the forehead, when the milker leans with that part upon the udder of an infected cow. From this account it appears, that the cow-pox as it affects the milkers, or what may be termed the *casual* cow-pox in the human species, is often a severe disorder, sometimes confining the patient to his bed during the period of fever, and generally leaving troublesome sores, but it has never been known to prove fatal; nor are these sores, if properly attended to, followed with any lasting injury of the affected parts, though they sometimes leave scars for life.

In consequence of the close investigation which this disorder has lately undergone, the following facts may be considered as fully ascertained by the fairest experiments and most accurate observations:

First.—The cow-pox, in its natural state, or when propagated immediately from an infected cow, to the hands of the milkers, is capable of affecting the human species from one to another repeatedly to an indefinite number of times; but, after the first attack, it is generally much milder in its symptoms, and in particular it is much less liable to produce the fever and general indisposition which always attend the first infection. There are instances, however, where the second and even the third attack have been as severe in every respect as the first; but these are very rare.

Secondly.—The small-pox in a considerable degree secures a person from the infection of the cow-pox; and in this respect appears to act in a manner very similar to a previous attack of the latter disease; that is, to confine its operation to the forming of local pustules, but unattended with general fever. Hence it is, that where all the servants of the dairy take the infection from the cows, those of them who have previously undergone the small-pox are often the only persons among them able to go through the usual work.

Thirdly.—The cow-pox, in its genuine state, when it has been accompanied with general fever, and has run its regular course, ever after preserves the person who has been infected with it from receiving the infection of the small-pox. This assertion is, however, to be taken with exactly the same limitations as that of re-infection with the small-pox preventing a second attack of the same disease. No previous infection will entirely counteract the local effect on the arm, produced by the insertion of variolous matter in common inoculation: this may in a few cases go so far as to induce a degree of general fever, slight indeed, but perhaps equal to that of the mildest indisposition caused by a first infection with this disorder. By the inoculation of either disease, however, the small-pox is equally and completely disarmed of its virulence against any subsequent attack, which is the circumstance that so much distinguishes and so strongly recommends this operation.

Fourthly.—A comparison of the two diseases in respect of the mildness of their symptoms, and the hazard to life which they may occasion, will show a very great advantage in favour of the cow-pox. Compared with the natural small-pox, the natural or casual cow-pox is both milder and infinitely more safe; no instance having ever been known of a fatal event in the cow-pox, so far as it affects the people employed in the dairies. When both diseases are introduced by artificial inoculation, they are each rendered much less severe; and here too the superiority of the cow-pox as a safer and milder disease is extremely evident.

Fifthly.—The cow-pox, even in its most virulent state, is not communicable by the air, nor by any other of the ordinary means of contagion, but can only be propagated by the actual contact of matter of a pustule from the cow-pox with some part of the body of the person who receives it. It is not yet ascertained, whether in all cases an insertion of specific infectious matter under the skin be necessary; but in its most active state, as it is when formed in the cow's udder, the skin which covers the lips and nostrils readily receives the infection without being broken. In this respect, the contagion of the cow-pox seems to equal that of the small-pox in activity; but the striking difference between the two diseases in the cow-pox not being communicated by the air, &c. is a circumstance fully and satisfactorily ascertained. In the dairy-farms, infected servants sleep with the uninfected: infants at the breast have remained with their mothers whilst only one of the two have had the disorder upon them; and in no instance has the disease of one been communicated by contagion to the other. It is this circumstance which gives the cow-pox its decided superiority; since, by adopting this disease instead of the small-pox, all the dread and all the mischief occasioned by the contagion of the latter are entirely removed.

The inoculated cow-pox appears to have almost as great a superiority in point of mildness and security over the ordinary inoculation of the small-pox, as this has over the natural small-pox; so that the same precautions which would be highly requisite in communicating the latter become less so where the disorder is to be introduced by inoculation; and still less where the cow-pox is substituted in the room of the other.

With regard to the method of performing inoculation in the cow-pox, Dr. Woodville, whose industry, judgment, and accuracy, appear to great advantage in his observations on this subject, advises "that the lancet should be held nearly at a right angle with the skin, in order that the infectious fluid may gravitate to the point of the instrument, which, in this direction, should be made to scratch the cuticle repeatedly, until it reach the true skin, and become tinged with blood."

The act of inoculation having been performed, the first proof of its success is a small inflamed spot at the part where the puncture has been made, which is very distinguishable about the third day. This continues to increase in size, becomes hard, and a small circular tumour is formed, rising a little above the skin. About the sixth day the centre of the tumour shows a discoloured speck, owing to the formation of a small quantity of fluid; and this continues to increase, and the pustule or pimple to fill, till about the tenth day.

After the eighth day, when the pustule is fully formed, the effects on the constitution begin to show themselves; the general indisposition being commonly preceded by pain at the pustule and in the armpit, followed by head-ach, some shivering, loss of appetite, pain in the limbs, and a feverish increase of the pulse. These continue with more or less violence for one or two days, and always abate of their own accord, without leaving any unpleasant consequence behind them.

During, or a little after, the general indisposition, the pustule in the arm, which had been advancing in a regular manner, becomes surrounded with a broad circular inflamed margin, and this is a sign that the body in general is affected. After this period, the fluid in the pustule gradually dries up, the surrounding redness becomes fainter, and in a day or two vanishes imperceptibly; whilst the pustule no longer increases in extent, but on its surface a hard thick scab of a brown colour is formed, which, if not pulled off, remains for nearly a fortnight, till at length it falls off, leaving the skin beneath perfectly sound and uninjured.

It is a circumstance of great importance in favour of this method of inoculation, that though some attention in choosing the matter for inoculation, and performing this slight operation in such a manner as to insure success, be requisite, very little medical treatment is necessary in order to conduct the patient through it with perfect safety. In most cases, it is attended with so little fever as scarcely to be detected by an attentive observer.

To conclude this account of the cow-pox with a repetition of the circumstance which gives it a decided superiority over the small-pox, Dr. Woodville affirms (and his authority is unquestionable), that of all the patients whom he inoculated with variolous matter, after they had passed through the cow-pox, amounting to upwards of four hundred, not one was affected with the small-pox, though purposely and repeatedly exposed to the infection of the disease; and what is not less extraordinary, nearly a fourth part of this number was so slightly affected with the cow-pox, that it neither produced any perceptible indisposition, nor pustules.

From the beginning of the world, the cow has, in all countries, been esteemed a valuable animal. Besides cultivating the ground, which her species performs, she supplies us with an aliment of her own preparing, the most wholesome as well as nourishing in nature; but never before was it known, except, as appears, in some particular districts in England, that even from a disease to which she is liable, she can likewise be further useful, in preserving us from one of the most fatal calamities that ever infested human kind.

Chicken or Swine Pox.

In many persons, this kind of pox make their appearance without being preceded by any illness or signs of their approach; but, in others, there is a slight degree of chillness, weariness, cough, loss of appetite, wandering pains, and feverishness for two or three days. The pustules, or pimples, in most cases, have the common rise of small-pox, but some are less; and they never are numerous, nor run together.

On the first day of their appearance, they are of a reddish colour; and on the second there is at the top of most of them a very small bladder, about the size of a millet-seed. This is sometimes full of a watery and colourless liquor, sometimes it is yellowish; and the skin which contains it breaking by accident, or perhaps from rubbing to allay the itching, a thin scab is formed, on the first or second day, at the top of the pustule. On the fifth day of the eruption, they are almost all dried and covered with a crust.

This disease may be distinguished from the small-pox by its appearance on the second or third day, and from the bladder of watery liquor upon the top of the pox. It may likewise be distinguished by the crust which covers the pox upon the fifth day, at which time the small-pox is not come to the state of maturity.

The disease, as above described, stands in no need of any remedies; but there sometimes appears a more malignant kind of it. For three or four days all the symptoms which precede the eruption run much higher. On the fourth or fifth day the eruption appears, with very little abatement of the fever. The pains likewise of the limbs and back continue; to which are joined pains of the gums. The pox are redder than the common chicken-pox, spread wider, and hardly rise so high, at least not in proportion to their size, but go off in the same manner.

From the similarity of this disease to the small-pox, we may account for the opinion entertained by some, of persons having been affected with the small-pox twice, or having them after being inoculated. For some have been inoculated from the chicken instead of the small-pox. It is also worthy of observation, that those who have had the small-pox may have the chicken-pox; but those who have had the chicken-pox cannot be infected again by it; though to such as never had the distemper it is as infectious as the small-pox.

In this disease, if the feverish symptoms run high, they must be treated in the same manner as the small-pox under similar circumstances.

Measles.

This disease resembles the small-pox in several particulars. They both made their appearance in Europe about the same time; both came from Arabia, or its neighbourhood; both are infectious, and seldom or never attack the same person more than once. The measles are most frequent in the spring, and generally disappear in summer.

SYMPTOMS.—The measles, like other fevers, usually begin with a cold fit, which is soon succeeded by a hot one; and sometimes the fits succeed each other alternately, accompanied with sickness and loss of appetite, which are more or less considerable in different patients. The tongue is white, but generally moist. There is a hoarse dry cough, often with some difficulty of breathing; drowsiness, sneezing, a running at the nose, and a heaviness of the head and eyes; the latter of which are sometimes a little inflamed, discharge a sharp humour, and are so tender that they cannot bear the light without pain. A vomit or looseness often precedes the eruption, which commonly appears the fourth day, first on the face, then on the breast, and successively on the lower part of the body. At the beginning, it resembles flea-bites, but soon after the specks run together in clusters. The eruption does not rise in evident pimples like the small-pox; however, in touching the spots, they are found to be raised a little above the skin.

This is the case on the face; but in other parts of the body the elevation or roughness is hardly to be perceived. On the face, the eruption retains its redness, or has it even increased for two days; but on the third the colour is changed to a brownish red; and in a day or two more the eruption becomes dry, and, falling off in scales, at length entirely disappears.

The fever, cough, and difficulty of breathing, instead of being removed or abated by the eruption, as in the small-pox, are rather increased; but if there was any vomiting before, it generally ceases. During the whole time of the eruption, the face is a little swelled, but seldom to any considerable degree. Sometimes, after the eruption has appeared, the fever entirely ceases; but most commonly it increases, and continues till the complete disappearance of the spots; even after this period it is often found to remain.

Though the fever should cease when the eruption has appeared, it is usual for the cough to continue for some time longer; and when the fever continues the cough never abates, and is also accompanied with an increase of the difficulty of breathing. These unfavourable symptoms are sometimes occasioned by too hot a treatment of the patient; which error, likewise, frequently gives rise to purple spots.

Sometimes the measles are succeeded by a violent looseness; and when this happens the case is attended with danger. The most fatal period in this disease is about the ninth day from the beginning of the complaint, when many are carried off by an inflammation of the lungs. The most favourable symptoms are a moderate looseness, a moisture on the skin, and a plentiful discharge of urine.

It sometimes happens that the eruption suddenly falls in, and the patient is seized with a delirium, which is a very dangerous case. Another unfavourable symptom is when the measles become too soon of a pale colour; and the same may be said of great weakness, restlessness, vomiting, and difficulty of swallowing. Purple or black spots appearing among the measles afford also a sign of great danger. When the disease is succeeded by a continuance of the cough, accompanied with hoarseness, there is reason to apprehend that a consumption of the lungs may ensue.

In the measles, as well as in the small-pox, it is necessary to observe a cool *diet*, and to drink plentifully of watery liquors. Acids however, as they tend to increase the cough, do not suit so well as in the preceding disease. The most proper drinks are barley-water, infusions of linseed or balm, with decoctions of liquorice and marshmallow-roots.

Cure.—In curing this disease, the great object is diligently to assist the tendency and efforts of nature. If her strength be too weak to throw out the eruption, she must be aided by blisters and proper cordials, such as wine-whey, with a few drops of the spirit of hartshorn; but when the fever is too violent, it may be restrained by bleeding; and attention must always be paid to the most urgent symptoms, such as the cough, restlessness, and difficulty of breathing. For abating the fever, the saline draughts should be used, or a julep answering the same purpose. Take of the salt of wormwood one drachm, fresh lemon-juice three or four table spoonfuls, mint-water a gill, loaf-sugar two drachms. Mix them, and give a table-spoonful every four or five hours; but, if the patient exceeds the age of childhood, the dose must be increased.

When the cough and restlessness are troublesome, a tea-spoonful or two of the syrup of white poppies should be given occasionally. To abate likewise the cough, the patient should frequently hold his head over the steam of warm water, and draw it into his lungs. With the same intention, the feet should be often bathed in warm water. For relieving the cough, it will be proper to give from time to time a little spermaceti and sugar-candy pounded together.

When purple or black spots appear, the patient's drink should be sharpened with acid of vitriol; and if the putrescent disposition of the blood increase, which may be known by the blackness and the number or enlargement of the spots, a bad breath, and high-coloured urine, recourse must be had to the Peruvian bark, in the same manner as has been directed in the small-pox.

A looseness succeeding the measles will often give way to bleeding; but if this is not rendered necessary by any accompanying fever, the complaint may be checked by taking for some days a gentle dose of toasted rhubarb in the morning, and a little syrup of white poppies, or a few drops of the tincture of opium (laudanum), at night.

After the measles and other symptoms of sickness are gone off, the patient ought to take a few doses of physic, in the same way as after the small-pox. But should a cough, with difficulty of breathing, and other symptoms of a consumption, remain after this period, small quantities of blood, as the strength of the patient can bear, should be drawn at moderate intervals, and he should be put upon the use of asses' milk, with that of a free air, and riding on horseback.

Several years ago, Dr. Home, of Edinburgh, made successful experiments for inoculating the measles in the same manner as the small-pox. In the hands of some others the practice has not proved equally favourable; but it is to be wished that greater attention were paid to it; for there is sufficient evidence that such practice renders the disease much more mild.

Chilblains.

Chilblains or kibes are small shining swellings, most commonly on the heels, but sometimes on other parts, and have at first a whitish appearance, inclining to a blue cast. They itch violently, are frequently painful, and at length vanish, sometimes with, and sometimes without breaking or ulceration. They usually attack children in cold weather.

At the first approach of the disorder, when it is in its lowest degree, dip the part into water that is cold, and if near to freezing so much the better. Let it continue in this situation during a minute or two: or if the cold chills and benumbs the part very much, dip it in and take it out two or three times at short intervals; after which it should be gently dried, and the same process continued every morning and evening at least, until all uneasiness is removed.

When the chilblains begin to look red and swell, the patient ought to take a dose of physic, and to have the affected parts frequently rubbed with mustard and brandy, spirits of turpentine, of wine, or something of a warming nature. Another very good application is vinegar and brandy mixed, with the addition of a little alum. Let linen rags be dipped in this mixture, and kept applied to the parts. Among the common people, even urine is made use of with success. To rub the parts with snow is highly advantageous. Some apply to them warm ashes between cloths; and when the parts are swelled, this frequently helps to reduce them. If there be a sore, it must be dressed with the ointment of tutty, Turner's cerate, or some other drying application.

Chilblains are generally occasioned by the feet or hands being kept long wet or cold, and afterwards suddenly heated. In order to prevent the complaint, when winter approaches, it is a good practice to put the parts usually affected into cold water, and avoid every occasion of subjecting them to too much warmth.

Scald-Head.

The scald-head consists of little ulcers, at the roots of the hair, which discharge a humour that dries into a white scab, or thick scales, and has an offensive smell. It is not only a very troublesome complaint, but often highly contagious, and, when united with a scrofulous constitution, found extremely difficult to be cured.

Cure.—When it is merely a complaint of the skin, it may be successfully treated with topical applications. If taken early, before it has spread far over the head, and while the scabby patches are small and distinct, it may frequently be cured by an ointment, made of equal parts of sulphur, flour of mustard, and powder of staves-acre, mixed up with lard; first cutting off the hair; and, through the whole course of the cure, taking care to remove the scabs by frequent washing with soap and water.

If the disease has considerably extended itself, the hair must be shaved off, and the head washed twice a day with a strong decoction of tobacco; repeating this process till the scabs disappear, and fresh hair grows up from the parts they had occupied. Instead of tobacco, water in which a good quantity of yellow soap is dissolved may be used for the purpose; but both this and the decoction of tobacco should be applied warm.

These washes frequently effect a cure of themselves; but, if the disorder proves obstinate, it is of great advantage, immediately after shaving the head, and using the soap and water, to rub in very forcibly the common pitch-ointment, with a good quantity of the powder of white hellebore, for near an hour at a time, always using it very warm. The head is to be afterwards covered with a bladder, to preserve the ointment on the part, as well as to keep it from sticking to the cap or other covering made use of. This process having been repeated three or four times, not only the scabs but the hairs also will become loose, and must be pulled out. When new hair springs up, free from scabs, it is a proof that the complaint is subdued. The method here recommended is no doubt painful in the operation; but some degree of severity is unavoidable, and the disorder is generally removed by these means.

The following plaster has been strongly recommended, as proving successful in the worst cases. Take of common ale, one pint; of the finest flour, three ounces; mix them well together; and, having set them over a brisk fire, add two ounces of yellow resin, stirring them constantly till they are perfectly incorporated, and have a smooth jelly-like appearance. Before this plaster is laid on, the head must be well washed, and a bread and milk poultice applied, if the scabs are very dry.

In some instances, the milder mercurial ointment has great effect, but it should be cautiously applied; and, instead of being forcibly rubbed in, like other topical remedies, should be only spread lightly, and very thin on the head; the body being at the same time kept open by some gentle purgative, such as senna, manna, cream of tartar, or the like.

Some, in the cure of this complaint, advise the application of a blister to the head.

When the disorder resists the means above mentioned, and seems to be confirmed in the constitution, the use of lime-water and a decoction of the woods is advisable.

BOOK III.

FEBRILE DISEASES.

CHAP. I.

Of Fevers in general, and the Inflammatory Fever.

FEVERS are both the most frequent and most fatal diseases to which mankind are liable; and being likewise of several distinct kinds, which demand each a different method of treatment, they generally require the aid of a physician; without whose assistance such errors might be committed, in the earlier stage of the disease, as would render it afterwards incurable by the utmost skill and attention.

SYMPTOMS.—All fevers, however, are not equally dangerous: for some are very slight and inconsiderable, performing their course in a single day, or at most in two or three; but they all partake of one common symptom, which distinguishes their character, namely, that of an increased frequency of the pulse. This, however, is not always a certain sign of fever in all ages of the human constitution; for in infants the pulse will beat such a number of times in a minute, as could not take place in a man without a very high degree of fever. In the state of manhood, the most common rate of the pulse is about seventy strokes in a minute. In some constitutions it is naturally more, in others a few less; and according to the peculiarity observable in any individual, when it is known, we ought to judge of the existence of a fever.

But a fever is distinguishable by other symptoms besides the frequency of the pulse. It is usually preceded by a coldness, or shivering, which is followed by a heat, a sickness or loathing of food, a sense of weariness, a pain of the head, frequently likewise of the back and loins, accompanied with thirst, want of sleep, in many a despondency of mind, and other particular symptoms or signs.

CAUSES.—The most general causes of fevers are infection; errors in diet; a checked perspiration; unwholesome air; suppression of usual evacuations, violent emotions of the mind; with internal and external injuries.

I shall now proceed to treat as briefly as possible of the different kinds of fever.

Inflammatory Fever.

SYMPTOMS.—The inflammatory fever is usually accompanied with the symptoms above mentioned, and with a white tongue.

CURE.—If the pulse, besides being frequent, is also full, it will be proper to bleed, to the quantity of ten or twelve ounces; after which some proper purge, such as the following, may be given. Take of senna two drachms; tamarinds an ounce; boil them in a pint of water for five minutes, towards the end of the boiling adding of liquorice-root sliced two drachms. Then strain the liquor, and dissolve in it, of cream of tartar a quarter of an ounce, manna an ounce. Let four spoonfuls of this be given immediately, and two spoonfuls every hour after till it begins to take effect.

If the stomach is foul, give a vomit, consisting of twenty-five grains of the powder of ipecacuanha; causing the patient to drink with it a sufficient quantity of chamomile-tea. After which the feet and legs should now be bathed in warm water.

If the disease be not subdued by these evacuations, it is probable that nature may make an effort to carry off the complaint through other channels, viz. by those of perspiration and urine. To forward this purpose, it will be proper to use the following saline mixture. Take of salt of wormwood, or tartar, or prepared kali, two drachms; juice of lemons, four spoonfuls; mint-water, a gill; loaf-sugar, half an ounce. Mix them, and give three spoonfuls every four or five hours. If the patient complain of much heat, ten grains of nitre may be added to each dose; with ten or fifteen drops of the wine of antimony.

During this treatment the patient is to be kept quiet in bed, but not covered with more clothes than usual, and the room must not be kept too warm; a low diet must be persevered in, such as gruel, panada, roasted apples, and the like; and for drink, infusions of leaves of balm, mint, or sage, barley-water, or other watery liquors, must be plentifully taken.

Should the fever still continue, and run high, it may be proper to repeat the bleeding: but this must be done with great caution, lest, by bringing on too great weakness, the patient might not be able to subsist through the course of the disease, the continuance of which is uncertain. If the pain in the head does not abate, the feet and legs ought again to be put into warm water, and a blister may be applied between the shoulders or at the back of the neck. In case of great restlessness and want of sleep, a moderate dose of tincture of opium may be given in such fevers: but this is by no means to be practised where there is much pain of the head. Through the course of the fever, the body ought to be kept open by a clyster every other day; and if the pulse sinks, the patient must be supported by proper cordials. But to regulate the degree of their strength, the advice of a physician is also necessary. The following may be used for this purpose. Take of cinnamon-water (not the spirituous kind), a gill; aromatic confection, three drachms; compound spirit of lavender, two tea-spoonfuls; loaf-sugar, two drachms. Mix them, and give two table-spoonfuls every tient long for any food or drink in particular, it will be pro- four or five hours, first shaking the bottle. Should the pa- per to grant it in moderation, as such a desire is often usefully dictated by nature herself.

CHAP. II.

Putrid or Malignant Fever.

THE attack of this disease is generally preceded by a giddiness, which is followed by a burning heat, sudden loss of strength, heaviness, lowness of spirits, watching, sickness, sometimes vomiting; an oppression of the breast, noise in the ears, purple spots, a delirium, a catching of the tendons, a blackish and thin crude urine. The pulse is weak, low, and unequal, and there are pains in various parts of the body.

CAUSES.—This fever is usually occasioned by foul air, arising from a number of people being crowded in a close place, or from putrid vapours. On this account, it is frequent in camps, jails, and military hospitals.

This fever is likewise often occasioned by a hot and moist constitution of the air, and by great inundations in low and marshy countries, when the body is relaxed, and the natural perspiration much obstructed. It is also produced by eating flesh or fish that have been too long kept; and by living too much upon animal food, especially such as is salted, without a suitable quantity of vegetables; whence seamen, on long voyages, are much exposed to its influence. Great scarcity of provisions, approaching to a famine, may likewise give rise to this fever, by weakening the constitution, and producing a putrid state of the fluids; which latter circumstance is not unfrequently the effect of eating corn that is much damaged, and drinking water which has become putrid either by stagnation, or by putrid substances contained in it. This kind of fever is extremely infectious, and often attended with such mortality as to resemble the true plague.

DISTINCTIONS.—The putrid fever may be distinguished from the inflammatory, by the smallness of the pulse, the uncommon dejection of mind, the dissolved state of the blood, and the extreme offensive smell of the excrements. It may likewise be distinguished from the low or nervous fever, by the heat and thirst being greater, the urine of a deeper colour, and the loss of strength, dejection of mind, and all the other symptoms more violent. It sometimes happens, however, that the inflammatory, nervous, and putrid symptoms are so mixed together, that it is difficult to determine, especially at the beginning, to which of the three classes the fever belongs. Here the greatest caution and skill is necessary in adopting the mode of cure.

The duration of the putrid fever is extremely uncertain; sometimes finishing its course between the seventh and fourteenth day, and at other times continuing for several weeks. The most favourable symptoms are a gentle looseness after the fourth or fifth day, with a warm moisture of the skin. To have little delirium is also a good sign; as it likewise is where the tongue is moist, and the pulse rises by the use of wine and cordials, with an abatement of the nervous symptoms. The appearance of small miliary pimples, in some measure resembling a millet-seed, between the purple spots, is likewise favourable, as also are hot scabby eruptions about the mouth and nose. Swellings of the glands under the ears, towards the decline of the disease, are accounted good signs.

Among the unfavourable symptoms are, the eyes much inflamed and staring; the speech quick, and the sound of the voice altered; a catching of the tendons; picking of the clothes; a high delirium; perpetual watchfulness; constant sickness at the stomach, and vomitings; a sinking of the pulse; coldness of the feet and hands, and a trembling motion of the tongue. It is considered as among the worst signs when the patient complains of blindness, and picks the bed-clothes; when he swallows with difficulty, or cannot put out his tongue when desired to do it; when he can lie on his back only, and pulls up his knees; or when he makes frequent attempts to get out of bed without assigning any reason. If without his knowledge he passes frequent stools of a very offensive smell, it is a sign of approaching death.

CURE.—In the management of this fever, one of the principal objects is, to endeavour as much as possible to correct the putrid tendency of the fluids; to support the patient's strength and spirits, and to assist nature in resisting the cause of the disease, by the frequent admission of fresh air into the chamber of the sick; and vinegar ought to be frequently sprinkled upon the floor of the apartment, and likewise close to the patient. It is proper to hold vinegar, camphor, or the fresh skins of lemons or oranges even to his nose. Herbs that have a strong and agreeable scent may be laid in different parts of the room, and of the house likewise, to correct the bad air, and prevent infection as much as possible.

In this disease, the least noise will affect the patient's head, and the smallest fatigue be apt to make him faint; on which account, he must not only be kept cool, but quiet and easy. The food must be light, and easy of digestion, such as beef-tea, roasted apples, barley and currants, &c. and the patient ought to eat freely of ripe fruits when they can be procured; or, in want of them, must take plentifully of acids in his drink. These, indeed, ought to be mixed with all his food, as well as drink. Orange, lemon, or vinegar-whey are all well suited to the nature of the disease, and may be drunk by turns, according to the patient's inclination; and they may be rendered cordial by the addition of wine in such quantity as his strength seems to require. When very low, a glass of wine unmixed may now and then be allowed; and he may drink negus with only half water, and sharpened with juice of orange or lemon. The most proper wine is Rhenish; but, if the body be open, red port or claret is preferable. Where chamomile-tea sits upon the stomach, it is very useful in this disease, and may be sharpened by adding to every cup ten or fifteen drops of the elixir of vitriol. When the body is bound, a tea-spoonful of cream of tartar may be dissolved in a cup of the patient's drink occasionally; or he may drink a decoction of tamarinds, which will not only quench his thirst, but promote a discharge by stool. London porter has been recommended in this fever, and frequently with good success; but the decline of that liquor in point of quality, of late years, renders it less to be depended upon. A little food and drink ought frequently to be given, and always seasoned with acids or aromatics, than which nothing is here more beneficial. When the delirium prevails much, it is of advantage to foment the patient's hands and feet often with a strong decoction of chamomile-flowers warm; which both relieves the head, and assists in correcting the putrid tendency of the humours.

Bleeding is inadmissible in this fever, unless there appears from the pulse and the constitution of the patient a strong tendency to inflammation; but it can only be admitted in the beginning of the disease, and will hardly ever bear to be repeated.

A vomit at the beginning of the fever has often a good effect; but if the fever has continued for some days, and the patient appears to be in a weak condition, this remedy is not advisable.

Blisters are of little use in the beginning of the putrid fever; but if the patient's pulse sinks much, and delirium, with other bad symptoms, come on, they are often productive of the best effects. They ought to be applied to the head, and inside of the legs and thighs. One inconvenience however attends them, which is, that they are sometimes apt to occasion a gangrene; and on this account, before having recourse to them, it may be proper to try the effect of sinapisms or warm poultices of mustard-seed, crumbs of bread, and vinegar, applied to the feet.

In respect of medicines, such as the following is advisable. Take of tartarized antimony three grains; of loaf-sugar one drachm. Mix them well into a powder, to be divided into six doses; one of which to be given every six hours, with two table-spoonfuls of the following mixture: Take of spearmint-water, half a gill; tincture of cinnamon, two table-spoonfuls; syrup of oranges, three table-spoonfuls. Mix them together. This frequently produces a gentle perspiration, by which the patient is much relieved; but profuse sweats are never to be encouraged in the putrid fever, as they tend to exhaust the patient, already too much weakened by the disease.

When purple or black spots appear, no time must be lost in having recourse to the Peruvian bark, which tends both to correct the putrid and dissolved state of the fluids, and to strengthen the body. It may be given thus: Take of Peruvian bark one ounce; boil it in a pint of water a few minutes, then strain it, and add of tincture of snake-root one ounce; elixir of vitriol one drachm; syrup of oranges two table-spoonfuls. Four spoonfuls to be given every fourth hour. If there be great looseness, two drachms of the aromatic confection may be added to this mixture.

Through the course of the disease an opiate, consisting of ten or fifteen drops of laudanum, may be given every night with advantage, particularly when there is a profuse looseness; and if, on the contrary, the body is bound, a clyster should be thrown up every other day, or even daily; for it is here of great consequence to keep the bowels clear of any putrid matter, which never fails to increase the fever.

In case of convulsive symptoms or hiccup, ten grains of musk powdered may be given with three table-spoonfuls of spear-mint or cinnamon-water, and a bit of sugar, and repeated in four hours, if necessary.

In removing the burning heat, which is so troublesome in this fever, good effects have been found from pouring cold water, fresh or salt, or mixed with vinegar, over the patient's head, and suffered to run down all over the body, or upon the body while laid on a blanket: but this must not be done when the patient is chilly, or in a general perspiration. The proper time for it is when the heat of the patient's skin is steadily above what is natural, and chiefly in the afternoon or evening, when the increase of the fever, or the exacerbation, as it is called, is usually at its height. The earlier in the fever this method is employed the more successful it proves. When the skin is hot and dry the patient's drink, as well as food, should be given cold.

The use of yeast has lately been recommended in this fever; but its general utility is not yet sufficiently confirmed.

For preventing infection in such fevers, Dr. Beddoes gives the following prescription: Take of salt a table-spoonful and half; of manganese half a table-spoonful: after mixing them well in a mortar, put them into a bason, then add of water two table-spoonfuls; of oil of vitriol half a table-spoonful. Repeat the oil of vitriol when the smell from the mixture ceases, till it has been added four times, then make a fresh mixture in the bason. No metal must be put into the mixture.

CHAP. III.

Slow or Nervous Fever.

IT is observed that slow nervous fevers have, during a century past, greatly increased in this country; and doubtless within that period a considerable change has taken place in the manner of living, even among people of all ranks. The active occupations, the hardy domestic customs, and the strengthening diet of our ancestors, have generally given place to a luxurious effeminacy unfavourable to the vigour of the constitution. Hence arises a weakness of the nerves, and a long train of real or imaginary complaints that were formerly unknown.

SYMPTOMS.—The nervous fever makes its first appearance with slight chills and shudderings, uncertain flushes of heat, and a sensation of weariness over the whole body, resembling that which is felt after a great fatigue. It is commonly attended with a dejection of mind, and more or less of a sense of weight, pain, or giddiness of the head. A great numbness, or dull pain and coldness, affects the hinder part of the head frequently; and likewise along the middle, from the forehead to the back part. A sickness at the stomach and a loathing of food soon follow, without any considerable thirst, but often with an inclination to vomit, which, if it happens, brings up little else than insipid phlegm. These symptoms are commonly succeeded by some degree of a delirium.

In this condition the patient often continues for five or six days, with a heavy, pale, sunk countenance: seemingly not very sick, and yet far from being well; restless, anxious, and commonly deprived of sleep, though sometimes very drowsy and heavy; appearing to those about him actually to sleep, but is himself so insensible of it, that he does not acknowledge he has slept at all.

The pulse during all this time is quick, weak, and unequal; sometimes fluttering, and sometimes for a few moments slow, perhaps even intermitting; and then, with a sudden flush in the face, immediately very quick: soon after which, it may again be surprisingly calm and equal.

The heats and chills are equally variable with the pulse: sometimes a sudden glow arises in the cheeks, while the tip of the nose and ears are cold, and the forehead at the same time in a cold dewy sweat. It is even common for high colour and heat to appear in the face when the extremities are quite cold. The urine in this fever is commonly pale; frequently of a sherry or natural colour, containing either no sediment, or a kind of loose matter like bran, scattered up and down in it. The tongue at the beginning is seldom or never dry or discoloured, but sometimes covered with a thin whitish slime; but at length it often appears very dry, red, and chapped, chiefly towards the crisis of the disease; though the patient scarcely ever complains of thirst, but sometimes of a heat in the tongue. About the seventh or eighth day the giddiness, pain, or heaviness of the head becomes much greater, with a constant noise in it, which is very disturbing to the sick, and frequently precedes a delirium. On suddenly sitting up in bed the patient is apt to faint. Frequently profuse sweats break forth all at once, about the ninth, tenth, or twelfth day, commonly coldish and clammy on the extremities. Often likewise very thin stools are discharged. Nature now sinks apace: he extremities grow cold, the pulse rather trembles than beats; the delirium now ends in a profound lethargy, and death soon succeeds. Most patients grow deaf and stupid owards the end of this disease. It is not uncommon for hem to languish fourteen, eighteen, or twenty days in this ever, and sometimes a much longer period.

Causes.—This fever is in general the consequence of a weakness of the nerves, brought on by unwholesome food, damp foul air, immoderate watchings, hard study, fatigue, rief, and, in short, whatever greatly diminishes the strength of the constitution.

Cure.—This fever requires that the patient be supported by a diet moderately generous. Chicken broth, beef tea, nd light jellies, as well as panada, should be allowed; and little wine may be mixed with the latter, according as the ymptoms may require. For ordinary drink, wine-whey, r negus, sharpened with the juice of orange or lemon, will be proper. Mustard whey* also is highly beneficial.

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* To make mustard whey, take milk and water, of each a pint: uised mustard-seed an ounce and a half: boil them together till the rd is perfectly separated, and afterwards strain the whey.

There is scarcely any thing more useful in this disease than good wine, particularly claret, which may be either given alone, or mixed with water, as may be most suitable to the state of the patient.

In the beginning of the disease, when there is a sickness and load at the stomach, it will be proper to give a gentle emetic, if no symptom forbid. Fifteen or twenty grains of the powder of ipecacuanha will best answer this purpose. The bowels ought then to be gently cleared of their contents by some mild purgative. For this purpose give a scruple of the powder of rhubarb, or use the following infusion of senna: Take of senna leaves, two drachms; coriander-seed, half a drachm, or a few grains of ginger; infuse them for an hour in a pint of boiling water: then pour off the liquor, and dissolve in it an ounce of manna. Two common tea-cupfuls of this given at the distance of an hour from each other will probably open the body in a little time after: if not, repeat the dose. Through the whole course of the disease, if nature wants to be prompted to stool, a clyster of milk, sugar, and salt, may be given with advantage every second or third day.

If the head should be much affected at the beginning of the disease, it will be proper to apply a blister to the back of the neck. Indeed blisters are of so much consequence in this fever, that they ought never to be omitted; and when the discharge occasioned by one blister abates, another should be immediately applied to a different part of the body.

Besides wine, which has been already recommended, cordial medicines to promote perspiration are always of great benefit. Take of spear-mint-water, and simple cinnamon-water, each half a gill; compound powder of contrayerva one drachm and a half; loaf sugar two drachms: mix them, and give two table-spoonfuls every four or five hours, after shaking the glass. If the patient should be seized with convulsions, add to this mixture half a drachm of musk, and a scruple of castor, both powdered, or Hoffmann's anodyne liquor one drachm, with forty drops of laudanum.

If the fever intermits, recourse should be had to the Peruvian bark, of which half a drachm, or more, may be given every two hours with a glass of wine, or wine and water, as best suits the state of the patient.

A miliary eruption, or an eruption of small spots, frequently breaks out about the ninth or tenth day of the disease. This is sometimes the consequence of keeping the patient too hot: but whether it arises from this cause or not, care must be taken not to check it, in case it should prove to be an effort of nature for throwing off the fever.

If a looseness come on, as sometimes happens, it may be restrained by small quantities of Venice treacle, or giving the patient the white decoction * for his ordinary drink, or by compound powder of chalk with opium, two grains every six hours.

If the patient should be seized with the thrush, viz. little whitish ulcers affecting the inside of the mouth and the adjoining parts, his mouth must be washed with gargles of honey of roses, or honey and vinegar, and tincture of myrrh, or borax and honey.

In case of profuse debilitating sweats, the Peruvian bark must be given, with diluted vitriolic acid, eight or ten drops in each dose.

When swallowing or breathing is interrupted by tough phlegm, recourse should be had to gentle vomits of ipecacuanha, or oxymel of squills, to bring it up.

After the fever is gone off, it is of great importance that the invalid should enjoy a pure air, and take daily exercise on horseback. He ought to use a nourishing diet, with a glass of wine, and take half a drachm of the Peruvian bark twice a day.

CHAP. IV.

The Miliary Fever.

THIS fever receives its name from the small pimples or ladders which appear on the skin, resembling, in shape nd size, the seeds of millet. They are either red or white, r a mixture of both. Sometimes they cover the whole body, ut are generally more numerous on the breast, or back, or herever the perspiration is most plentiful.

This fever, though sometimes an original disease, is much more often only a symptom of some other, such as the smallox, measles, nervous fever, &c. in all which cases it is commonly the effect of a too hot treatment or medicines.

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* Take of powdered chalk two ounces; gum-arabic, half an ounce; ter, three pints. Boil to two pints, and strain the decoction. It may kewise be made without the gum.

The miliary fever chiefly attacks persons of a relaxed habit of body, who live upon a watery diet, and take little exercise. It is most frequent among lying-in women.

CAUSE.—In general, this fever takes its origin from the same causes with the slow nervous fever, of which I have already treated in the preceding chapter. It may likewise be occasioned by the stoppage of any customary discharge, such as issues, setons, the bleeding piles in men, and in women the monthly evacuation.

SYMPTOMS.—The symptoms of this fever are shivering and heat successively, lowness of spirits, oppression about the chest, and sighing. On the third or fourth day the eruption generally appears on the neck, breast, and back, preceded by a profuse sweat of a peculiar sourish smell; and it is commonly attended with a tingling or pricking of the skin. The eruption being completed, the symptoms usually abate; and the urine, which was before pale, becomes high coloured. In about seven days the eruptions commonly dry, and the skin peels off, accompanied with a disagreeable itching. But the disease ends not always here; for often all the former symptoms are renewed, and the eruption returns as before. This is an unfavourable sign, as it shows the blood to be much affected.

CURE.—It is observed that this disease sometimes partakes of the nature of the inflammatory fever, sometimes of the putrid, and at others of the slow nervous fever; and according to the degree in which it inclines to any one of these, the method of cure must be directed. If the inflammatory fever rises high, there will be a necessity for letting blood; but this must be done with great caution, and not without considering the particular cause of the disease, and the natural constitution as well as the present state of the patient. If the stomach appear to be loaded, a gentle vomit of ipecacuanha should be given; and afterwards, if there be no purging, the infusion of senna, recommended in the preceding chapter. The first passages being thus cleared, it will be proper to give the saline draughts, or julep. Take of salt of tartar, or wormwood, or kali prepared, one drachm: juice of lemons, six table-spoonfuls; spearmint water, half a gill; loaf sugar, two drachms. Mix them, and give two spoonfuls every four hours. If a delirium appears, the feet must be bathed in warm water, and a blister applied between the shoulders, or to the back of the neck.

If the disorder has the appearance of a putrid or slow fever, and there be purple or black spots on the skin, it will be necessary to give the Peruvian bark, as in the putrid fever; and if low nervous symptoms be joined with the disease, recourse must be had to the cordial medicines mentioned in the treatment of the slow nervous fever. In short, the treatment must be suited to the particular nature of the case; taking care to regulate circumstances by an attention to the strength of the patient and the violence of the disease. If the mouth be affected with ulcers named aphthæ, or the thrush, which for the most part accompany fevers of a putrid nature, they must be treated in the manner directed in the preceding chapter.

If a violent purging should come on while the patient is in a low state, the case is attended with danger; but the evacuation must not be suddenly restrained, otherwise the feverish symptoms will certainly increase. Before any attempt is made for that purpose, it will be proper to give about fifteen grains of the powder of toasted rhubarb; and after this, should the discharge continue, such a mixture as the following should be given: Take of mint-water, and cinnamon-water, each six table-spoonfuls; compound powder of chalk with opium*, three drachms; syrup of white poppies, two table-spoonfuls. Mix them, and give two able-spoonfuls after every stool.

This fever, on one hand, is so apt to be increased by hot treatment; and, on the other, the miliary eruption is so eady to strike in, and thereby prove dangerous, by any diminution of the patient's strength, that much attention is necessary to watch the state of the patient, and support the pulse in such a degree as is best suited to keep out the eruption, without exciting any profuse sweat, which ought always to be avoided. The diet and drink should therefore be moderately cordial; the chamber be kept in a temperature neither hot nor cold; the covering of the bed be regulated kewise with a regard to moderation; and to crown the whole, the patient's *mind* should be preserved as much as ossible in a state of serenity and cheerfulness. This is not disease of frequent occurrence.

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[*] For this powder, see *Appendix*.

CHAP. V.

The Remittent Fever.

THIS fever differs both from the continual and intermittent kinds, and partakes in some measure of the nature of each, but chiefly resembles the intermittent, to which it is more nearly allied: for after a certain number of hours, though not any fixed period, it is attended with a remission or abatement, but not a total cessation of fever.

CAUSES.—Remitting fevers attack chiefly persons of a relaxed habit of body, who live in moist situations, breathe impure air, and use watery unwholesome diet. They are particularly frequent in low marshy countries abounding with wood and stagnating water; and nothing is more favourable to their production than heat and moisture combined. They are most frequent in close calm weather, and in the months of July and August.

SYMPTOMS.—For the most part, this fever comes on suddenly, with weakness, lowness of spirits, fits of heat and cold by turns, and other feverish symptoms. The pulse is small and quick, the hands tremble, the countenance is pale or yellowish, the skin dry, and there is a difficulty of breathing. Besides a pain and giddiness of the head, the patient is sometimes affected with a delirium at the very first attack. There is a pain, and sometimes a swelling, about the region of the stomach, accompanied with a vomiting of bile, and sometimes a discharge of it by stool. In some patients there is a looseness, in others the opposite extreme. At length a moisture appears on the face, and afterwards on the other parts of the body, when the remission ensues.

CURE.—In curing this fever, the principal object is to bring it to a regular remission, which end is most successfully obtained by supporting the disease at a moderate pitch. Bleeding is not advisable, unless there be evident signs of inflammation; but in most cases, six or eight grains of ipecacuanha, with one or two of tartar emetic; may be given, as a vomit, with advantage. After this. if the body be bound, it may be opened with the following decoction: Take of senna leaves, a drachm and a half; tamarinds, an ounce. Boil them in a pint of water for five minutes. Then strain, and dissolve in the liquor one ounce of manna, and two drachms of crystals of tartar. Let the patient take four table-spoonfuls of this decoction every hour till a stool is procured.

Afterwards, to bring the fever sooner to a crisis, or to regular intermissions, it will be proper to give the saline draughts, mentioned in the cure of the inflammatory fever, or to make use of the following mixture: Take of spearmint-water, half a gill; simple cinnamon-water, four table-spoonfuls; camphor, one scruple; nitre, two scruples; tartarised antimony, ten grains; loaf-sugar, two drachms. Mix them, and give two table-spoonfuls every four hours.

As soon as a remission is perceived, the Peruvian bark must be immediately given, in the quantity of half a drachm, two scruples, or upwards, and repeated every two or three hours; by which the usual increase of the fever may be prevented, and the disease entirely subdued. The bark is at this period the great and indispensible resource, and it can hardly be given too freely, accompanied, as it ought to be, with wine, and aromatics.

Fowler's solution of arsenic has been found an efficacious remedy both in this and the intermittent fever.

In the more advanced stages of this disease, in hot climates, the mouth, teeth, and inside of the lips are covered with a black crust, and the tongue becomes so dry and stiff that the patient's voice can scarcely be heard. Among favourable symptoms are, inflammatory spots in the last stage of the disease, particularly on the breast, arms, or belly; as is likewise a plentiful and general perspiration over the body; instead of which the patient is sometimes relieved by voiding great quantities of urine.

The treatment of the patient, respecting diet, must be suited to the degree and symptoms of the disease. When there are any signs of inflammation, every thing of a heating quality, both in food and drink, must be avoided; but when the disorder is accompanied with nervous or putrid symptoms, the patient must be supported with such diet and cordial liquors as have been mentioned in treating of those fevers. Wine, given with the bark, when the remissions are considerable, has often excellent effects; but we ought to beware of changing the fever from a remittent into a continual kind, by a management too heating and inflammatory.

In all the variations of the disease, the patient should be kept cool and quiet, as in every other fever. Fresh air ought to be frequently admitted into the apartment by the windows and doors; and it will be rendered more wholesome if often sprinkled with vinegar. Both linen and bed-clothes should be frequently changed, and the excrements immediately removed: for too much attention cannot be given towards keeping the air of the chamber pure and untainted.

CHAP. VI.

Intermittent Fever, or Ague.

INTERMITTENT Fevers derive their name from the manner in which they proceed; there being a perfect interruption of every symptom from the end of one fit to the beginning of another. An ague, on its first attack, may not always be distinguished from a continued fever; but after one fit is over its character may be known, though the time of its return cannot be fixed positively till after a second fit comes on. In one kind, called a quotidian, and which approaches near to a continued fever, the fit returns every day; in the tertian it returns every other day, or after the expiration of forty-eight hours; and in a quartan it returns every fourth day. Those intermittents are called vernal which begin in February, and prevail during the two or three following months; and those, on the other hand, autumnal, which appear in August, or somewhat later. The former are reckoned the least hurtful; indeed a tertian, in the spring, is thought by many to contribute to health. Of all the kinds of intermittents, the tertian is the most common, and easily cured.

SYMPTOMS.—The intermittent fever begins with yawning and stretching; a nausea or sickness at the stomach, sometimes a vomiting; with pain of the head, back and limbs. These symptoms are either attended or succeeded by cold shiverings and chattering of the teeth, though the blood is at this time in a state of increased rather than diminished heat. The pulse is weak, and extremely quick, the breathing is difficult, and the urine pale. Such is the first stage of the disease, which sometimes continues several hours, but at others not more than half an hour, though in general it remains between one and two hours.

In the second stage the hot fit begins, when the sickness, anxiety, and difficulty of breathing remain, but go off by degrees as the pulse becomes fuller and stronger. Besides the heat, there is excessive thirst, violent head-ach, and frequently delirium; sometimes even a disposition to a lethargy, or apoplexy. The tongue is white, the urine now high-coloured; and there is often a heat at the pit of the stomach, attended with pain, if not likewise with swelling.

This stage having no fixed period, the time of its continuance is uncertain; but it is generally followed by a sweat, in consequence of which all the feverish symptoms disappear.

CAUSES.—As intermittent fevers are most frequent in low marshy countries, they seem to be occasioned chiefly by vapours from putrid stagnating water; but even in more high situations, a long continued moisture of the air is apt to produce them in persons of a relaxed habit of body. A poor watery diet disposes people much to these fevers; as does likewise a dampness in the walls and the lower parts of houses; and they are known to be frequently caught by imprudently lying upon the damp ground. Whatever relaxes the body, and diminishes perspiration, has a tendency to excite these fevers in particular constitutions.

CURE.—During the first fit of an ague, whether the cold or hot, there is no opportunity for giving medicine; but when the latter has come on, the patient ought to drink freely of water-gruel, weak chamomile-tea, and the like; but if his spirits be low, he may be allowed some weak wine-whey, sharpened with the juice of lemon. It is necessary that all his drink be warm, for the purpose of promoting sweat, which is the natural crisis of the disease.

Between the fits, the patient's food ought to be nourishing and easy of digestion; such as broths made of the tender meats, especially beef-tea, light puddings, &c. For drink he may use wine and water, or small negus, to which is added a little of the juice of lemons or oranges. If he takes occasionally a cup of chamomile or wormwood-tea, it will serve both as drink and medicine. Much likewise depends upon his taking proper exercise between the fits. Riding on horseback, or in a carriage, when there is nothing to forbid it, is highly useful. Even walking in the apartment, or through the house, though without the advantage of a free open air, is preferable to a state of inactivity; to which, however, the patient, either from weakness or inclination, is often much disposed.

It is not uncommon for intermitting fevers, especially in those who use brisk exercise, to go off without medicine, or at least to be felt very slightly at the usual periods of their return. Some patients, in expectation of such an event, allow the disease to take its course for a considerable time, and often with impunity; especially if they guard well against watery diet and dampness, and the state of the weather be favourable to a recovery. Many likewise are inclined to this practice, not only from an opinion that an ague is good for securing the health, but that the cure of it, by the bark in particular, is accompanied with danger. It is undoubtedly true, that the repeated fits of an intermittent fever sometimes produce a favourable change in the constitution. But this happens chiefly to persons of a bad habit of body; and such being for the most part either naturally weak, or their strength being impaired by the long continuance of some complaint, they are less able to bear the repeated shocks of an intermittent fever, when violent. And I may safely affirm, that if there be any diseases which yield to the shivering, the hot fit, and the sweat, which comprise a fit of an ague, they may likewise be cured by means far less severe, and not injurious to the constitution.

It is seldom necessary to bleed in an intermittent fever, the pulse being in general not so full as to demand it; but to cleanse the stomach and bowels, in the beginning of the disease, is always attended with advantage: for nothing so much supports the fever as a foulness and load of those parts; and until they be relieved, it is in vain to expect either a speedy or perfect cure of the disorder. Indeed nature herself points out the propriety of having recourse to such means: for great quantities of bile are frequently discharged by vomiting; and the stomach is found to be lined with a tough phlegm, extremely injurious to digestion, and productive of various complaints. In order therefore to cleanse the stomach, it will be proper to employ the powder of ipecacuanha, twenty or thirty grains of which will be a dose for a grown up person. The best time for taking it is two or three hours before the return of the fit, that its operation may be completed when the fever next comes on; and the vomiting should be promoted by drinking plentifully of chamomile-tea.

The action of vomiting imitates in some measure the fit of an ague, by putting into motion, and agitating the whole frame; whence it not only cleanses the stomach, but excites a general exertion through the vessels of the body, and tends greatly to promote perspiration, which is the ordinary crisis of intermittent fevers.

Notwithstanding a vomit has been taken, and more especially if the patient has an utter aversion to vomiting, some purgative medicine will be proper; and it ought, like the vomit, to be given not only during the intermission, but immediately after the fit has ceased, that its operation should likewise be finished before the next return of the fit. This purpose may be sufficiently answered by a dose of rhubarb, Glauber's salts, or crystals of tartar; to the latter of which, dissolved in hot water, some manna may be added.

Both these discharges, viz. vomiting and purging, produce so good an effect, that an intermittent fever often yields to them, or even to one of the two, without the use of any other medicine; especially if a grain of opium or fifteen grains of opiate confection be taken after the operation of the emetics.

When, during the intermission of the fever, there is an even, steady, soft pulse, with a plentiful sediment in the urine, we may be well assured that the patient is in a proper condition for taking the Peruvian bark; but indeed there s no ground for hesitation after the stomach and bowels are leansed.

The best form of giving this valuable medicine is in owder, with a glass of Port wine. On many stomachs t is found to sit most easily mixed with a cup of milk; but may be given in any thing most agreeable to the patient's alate; and greater regard should be had to his taste in this espect, as a dose must be taken very often to prevent the eturn of the fever. It is generally found, that in an adult, r grown up person, from six drachms to an ounce of bark, egun to be taken immediately after the fit, will answer this urpose. Two scruples, or even a whole drachm, if the atient's stomach can bear it, may be given at a time, and he frequency of the dose be regulated by the usual return the fits. Thus, in a quotidian, or an ague that returns ery day, a dose ought to be taken every two hours; in a rtian, or that which returns the second day, every three ours; and in a quartan, every four hours. Where the pant cannot take so large a dose of the bark, the quantity ay be diminished, and taken more frequently. A smaller antity is likewise sufficient for young persons, and that in oportion to their age.

But though another fit of the ague has been prevented by the bark, the use of this medicine must not be immediately laid aside, but a dose of it be taken at least three times a day, for two or three days; then twice a day for one week, and once a day for another: by which means we may insure a security against the return of the complaint.

It is observed, however, that those who have once had this disease are more liable to a return of it than others, especially during a state of the air favourable to its production. This disposition is most frequent in cold moist weather, and when there is an easterly wind; on which account, such persons ought, at those times, to take a dose of the bark every morning. For this purpose, they may infuse an ounce of it, with one drachm of gentian-root, and two drachms of the fresh outer rind of Seville oranges, in a quart of brandy, for three or four days, and afterwards filter it through paper. About half a wine-glassful of this tincture may be taken for a dose. Instead of brandy, the same quantity of white wine, if more agreeable to the taste, may be used.

When the bark cannot be taken in substance, it may be given in decoction or infusion. To make the former, Take of bark, two ounces; water, four pints; boil it to three pints and a half; then strain the liquor while hot, and dissolve in it two drachms of sal ammoniac. Four spoonfuls of this decoction may be taken for a dose.

For an infusion, take of the powder of bark, an ounce: Virginian snake-root, two drachms; hot water, a pint: infuse for twenty-four hours; and to the strained liquor add, of strong cinnamon-water, four table-spoonfuls. Three or four table-spoonfuls for a dose.

The bark, in whatever form it is taken, may be rendered more efficacious by the addition of other bitter medicines, such as gentian-root, chamomile-flowers, the rind of Seville oranges, quassia and the like; and it will also be more efficacious when assisted by brandy, or other warm cordials.

When the stomach cannot bear the bark in such doses as are necessary, it may be given by clyster. For this purpose, infuse half an ounce of extract of bark in half a gill of warm water; to which add one table-spoonful of oil of olives, and six or eight drops of laudanum. Such a clyster is to be repeated every fourth hour, or oftener, as there may be occasion. The quantity of the extract and laudanum must be lessened proportionably for children.

Children have also been cured of agues, by means of a waistcoat with powdered bark quilted between the folds of it, as they likewise have by being bathed frequently in a decoction of the bark. The same purpose is sometimes answered by rubbing the spine, or back-bone, with strong spirits; or with a mixture of equal parts of compound soap liniment and laudanum. Wine-whey, to half a pint of which is joined a tea-spoonful of the spirit of hartshorn, may be given to young children by way of drink. It may be added, that such patients have received great benefit from the following julep: Take of salt of tartar, or kali prepared, one drachm; fresh juice of lemons, three table-spoonfuls: in less than a minute after they are mixed, or as soon as the effervescence ceases, add of mint-water, two table-spoonfuls; common water, and simple syrup, each one table-spoonful. Instead of the syrup a bit of loaf-sugar may be used. To a child four or five years old, three tea-spoonfuls of this julep may be given every two hours.

It is not to children alone that this remedy proves useful: for medicines of the same nature may be taken with advantage by grown up persons, especially when the hot fit of the ague is accompanied with signs of inflammation.

Sometimes the bark has a tendency to pass off through the bowels: when this happens, it is necessary to add a few drops of laudanum to each dose; but if, on the contrary, the patient be costive, a few grains of rhubarb may be joined to the bark occasionally.

It is a peculiar circumstance in the intermittent fever, that it is often cured by medicines termed narcotic; such as, for instance, the syrup of white poppies, and laudanum. Two or three tea-spoonfuls of the syrup given to a young child, in the hot fit, has been often known to stop the disease; and in grown up persons laudanum is found no less effectual, when taken in the quantity of fifteen or twenty drops, half an hour after the hot fit has begun. This medicine relieves the head-ach and fever, and promotes a profuse sweat. The practice was introduced by the late Dr. Lind at Portsmouth, who gave the remedy in about two ounces of sacred tincture, when the patient was costive, ordering the bark immediately after the fit.

When the disease does not yield to the bark, a few gallons of cold water, or brine, dashed over the patient when the hot stage is completely formed, but before perspiration comes on, brings the fit to a speedy termination; and it is certain that during a perfect intermission, the cold-bath has a powerful effect in preventing the return of the fever.

White arsenic has been recommended in this disease, as well as in the remittent fever, especially Fowler's solution, which is sold at Apothecaries-Hall, &c. and may be given in doses of *seven to ten drops* every six hours in any pleasant tea.

It would be endless to mention the great number of empirical remedies, which have been handed down by popular tradition, and indeed are daily multiplying, for the cure of intermitting fevers. Even cobwebs, spiders, and the snuffings of candles, have each had their zealous admirers. It is probable that many of those substances are entirely indebted for their reputation to some favourable circumstance. Having been swallowed by accident, at a time when nature was inwardly, though secretly, conquering the disease, credulity has ascribed the whole merit of the ensuing cure to the virtues of the visible object.

But in the cure of agues in particular, there is certainly no occasion for recourse to whimsical remedies, much less to such as are nauseous even to think of. For, besides the Peruvian bark, which is almost sovereign in these diseases, the preparations of iron are of acknowledged efficacy; and there is hardly an herb, or other substance, which yields either a roughness on the palate, such as oak-bark, and alum, or a bitterish taste, as chamomile-flowers, that is not highly serviceable against intermittent fevers. To these two classes I might add a third, namely, that of aromatic or spicy substances, which, joined to the two former, have considerable effect in the cure of the most obstinate agues, especially in rainy seasons and damp situations, and in persons advanced in years, or of a cold phlegmatic constitution.

It is however to be lamented, that amidst the great abundance of remedies of unquestionable virtue, a person who has an ague should ever trust for a cure to any thing either of a doubtful or insignificant nature: for, intermitting fevers being often accompanied with other disorders, or with dangerous symptoms attendant on themselves, every retardment or disappointment of cure is apt to have pernicious effects, both by weakening the patient through the long continuance of the disease, and affording time to the other malady to increase, and perhaps become incurable. Though an ague is generally cured by ordinary means, if properly made use of, yet, as it sometimes resists the most powerful medicines, it ought never to be trifled with, when obstinate; especially if, during the intermissions, the patient is not entirely free from complaint. In all unfavourable cases of this kind, it is proper to have recourse to the assistance of a physician, before it be too late.

CHAP. VII.

Milk-Fever.

THIS fever is peculiar to women in child-bed. It frequently arises about the second, but more commonly on the third or fourth day after delivery; accompanied with swelling of the breasts, and pain shooting towards the arm-pits. The breasts are sometimes hard, hot, and inflamed. The disease is seldom of any great consequence, if the patient lies quiet, uses a thin diet, and takes freely of weak drinks. It generally continues a day or two, at which time it goes off in plentiful sweats and discharges of pale urine. Or, if the milk be suddenly driven back, the patient is sometimes relieved by a critical diarrhœa, or looseness.

CURE.—If the disorder should prove violent, as some-imes happens in young women of a full habit of body, the nflammation ought to be abated by bleeding; but this is eldom necessary. In every constitution, however, the ody must be kept open by gentle cooling purges, or lysters. To answer the former purpose, take half an ounce f crystals of tartar; dissolve it in a pint of boiling water, nd add to it an ounce of manna. A tea-cupful of this nay be taken every two hours, till it produces a stool. As o the clyster, it may be made of milk, with some moist ugar, and salt, and a spoonful or two of sweet oil.

The breasts should be drawn by the child, in preference o any other person, or contrivance; but, if the mother does ot intend to give suck, by some proper person who will do gently, and in such a manner as only to lessen the full-ess of the breasts, and so to diminish the pain. Both the velling of the breasts and all these consequences might e prevented, were it not for the absurd custom of not lowing infants to suck for the first two or three days; practice not only contrary to nature, but extremely hurt-l both to the mother and child. The practice, however, of having the breasts drawn by another person is seldom required.

If the breasts are hard or inflamed, softening fomentations and poultices may be applied to them. The common poultice of bread and milk, with the addition of a little oil, or fresh butter, may be used on this occasion, and renewed twice a day, till the swelling be either discussed or brought to suppuration; and as a fomentation, warm milk, or a decoction of elder flowers. For discussing the swelling, the following fomentation, if used in time, is generally effectual: Take the heads of four white poppies: boil them in a quart of common water to a pint; then strain, and dissolve in the liquor six drachms of crude sal ammoniac.

In general, it is much better to let the tumor break of itself, than to open it either with the lancet or caustic. The ulcer is afterwards to be dressed with digestive ointments, in the usual manner.

Chapped or sore nipples are very frequent with those who give suck; in which case, fresh cream spread upon fine linen, or a solution of gum arabic in water, is a very proper application.

If the nipples be soft and moist, apply the following liniment: Take of hog's lard, half an ounce; Armenian bole, starch, and sugar, all powdered, of each one drachm. Mix them into an ointment.

It is almost unnecessary to observe, that whatever applications be made use of to the nipples, they ought always to be washed off before the child is permitted to suck.

During the milk-fever the patient should use a thin diet, consisting of gruel, panada, and the like; and her drink be barley-water, milk and water, weak tea, or whatever of the watery kind is most agreeable to her taste.

CHAP VIII.

Puerperal or Child-bed Fever.

THIS fever generally begins the first, second, or third day, sometimes later, after delivery, with a chilliness, which is followed by violent pains of the belly (abdomen), and a soreness extending over the whole of that part, scarce capable of bearing the gentlest touch. The belly is sometimes soft, sometimes greatly swelled. The pulse is quick and weak, though sometimes it will resist the finger pretty strongly. There is much thirst; pain in the head, chiefly in the forehead, and parts about the eye-brows; a flushing in the face; anxiety; a shortness of breathing; a suppression of the natural purgations after delivery; high-coloured urine; and a hot. dry skin. Sometimes vomiting and purging attend from the beginning; but in general, at first, the body is costive. When the disease proves fatal, however, a looseness generally comes on, and the stools at last come away unknown to the patient.

Such, in general, is the course of the puerperal fever; the symptoms of which, however, may be often varied, according to the constitution of the patient, the degree of the disease, and its earlier or later invasion. When the woman is naturally weak, or her strength has been greatly reduced by immoderate evacuations after delivery; when the disease is violent, and immediately follows that period, its progress and termination are proportionably rapid and fatal. In such circumstances many have been known to expire within twenty-four hours from the first attack of the disease. This event, however, is generally suspended for some days; and the number of these is variable, though the eleventh from the beginning of the fever may be regarded as the period which is usually decisive. In whatever stage of the disease an unfavourable termination may happen, it would seem that the beginning of the patient's recovery is not marked by any critical symptoms in the fever, as depending on an alteration of the humours; but that the cure is gradually effected, either by vomiting, or a long continued discharge, by stool, of that corrupted matter, the existence of which, in the stomach, is usually apparent at the first attack of the disease. It is therefore a dangerous case, where the weakness of the patient is such as renders her unable to support so tedious a discharge as that by which the fever is carried off. When the natural purgation returns to its former state, when the swelling and tenderness of the belly abate, and there is a moisture on the skin, these symptoms afford reason to hope for a happy termination of the disease.

Though this fever may generally be known from the description now given of it, and chiefly by that remarkable tenderness of the belly which particularly distinguishes it; yet, as some of its symptoms may be confounded with those arising from other diseases, and which require a different method of cure, it will be proper to mention here the circumstances by which it may be known with greater certainty.

The pains of the belly, attending the child-bed fever, may be distinguished from those called *after-pains*, by their uninterrupted continuance, sometimes increased, through the course of the disease; whereas the after-pains often totally intermit. The latter likewise are accompanied with no symptoms of fever.

Many circumstances show a difference between the puerperal and miliary fevers, notwithstanding the symptoms of anxiety, and oppression at the breast, are common to both. In the puerperal fever, the chillness is more violent, of longer duration, and not interrupted as in the other. The pulse is fuller and stronger; the skin is more hot; and the tongue, whether moist or dry, though generally the latter, is not of a white but brownish appearance; and the urine is also higher coloured. Eruptions on the skin, which prove serviceable in miliary fevers, procure no abatement of the puerperal fever, and cordials generally increase it.

When the original attack of the puerperal fever happens to coincide in point of time with that of the milk-fever, the nature of it may at first be mistaken; but the symptoms, and greater violence of the disease, must in a short time dissipate such an error.

CAUSES.—Notwithstanding the prevalence of this disease in all ages, its real nature has remained to the present time a subject of much dispute and uncertainty. Some have considered it as proceeding entirely from an inflammation of the womb, or peritonæum; others have supposed it

o be the consequence of an obstruction to the secretion of
he milk; while others have been inclined to impute it to a
toppage of the purgation after delivery.

“ The apparent indications and contra-indications of bleed-
ng, and other remedies,” says Dr. Manning, “arising from
he complication of inflammatory and putrid symptoms;
he equivocal appearance of vomiting and purging, as whe-
her they be critical or symptomatical; and the different
auses whence symptoms similar to each other may arise in
regnant women ; all these circumstances concur to involve
he subject in great obscurity and indecision.”

One of the most essential points to be ascertained in the
ure of the child-bed fever, respects the propriety of bleed-
ng. A free use of the lancet has been generally regarded
s the most successful expedient in practice; but Dr. Den-
nan thinks we may safely affirm from experience, that for
ne who will receive benefit by large bleeding, a much
reater number will be injured, and that even almost irre-
ievably. Indeed, whoever regulates his practice by fact
nd observation, will be convinced that bleeding, especially
n any great quantity, is, in general, very far from being
ttended with success. Bleeding is seldom proper, except
n women of a full habit of body, and in whom the signs
f inflammation run high; nor even in such patients ought
to be repeated without great caution.

The genuine nature and effects of the looseness in this
isease, is another disputed point of the highest importance.
hysicians observing that women who die of the puerperal
ver are generally molested with that evacuation, have
een led to consider this symptom as of the most dangerous
nd fatal tendency; and what we therefore should endea-
our by every means to restrain. In this opinion, however,
ey would seem to be governed by too partial an observa-
on of facts. For experience certainly authorises the as-
rtion, that more women appear to have recovered of the
ild-bed fever, by means of a looseness, than have been
stroyed by that cause. If it also be considered, that
rging is usually almost the only sensible evacuation in
e more advanced state of the disease, and is that which
companies it to its latest period, there is the strongest
ason to think that it is critical rather than symptomatical,
d ought therefore to be moderately supported, instead of
ing unwarily restrained. Nay, the advantage which is

found to attend vomiting, as well as purging, in the earlier stage of the disease, would seem to prove beyond contradiction, that the matter discharged by those evacuations is what chiefly foments the disease. Vomits and purges, therefore, are the only medicines on which any rational dependance is to be placed in this fever; at least, they are certainly such as are found the most successful. It is an established rule in practice, to prescribe a vomit at the beginning of every fever attended with any nausea or loathing of the stomach, and where there is no reason to apprehend an inflammation of that organ. Nor does the state of child-bed women afford the smallest ground for prohibiting a recourse to the same means for answering a similar purpose.

CURE.—It is so seldom a physician is called at the very onset of the puerperal fever, that he has few opportunities of trying the effects of remedies in that early stage of the disease. When such occur, however, and the patient is in what is called the rigor of the fever, or the state of chiliness, we should endeavour as much as possible to shorten that period, as the succeeding fever is generally found to bear a proportion to the violence and duration of it. For this purpose, warm diluting drinks, such as gruel, barley-water, &c. should be plentifully used, with a small quantity of volatile spirits or brandy. In this situation, a dish or two of warm sack-whey is attended with advantage. But care must be taken not to give any thing too strong, which is a caution that ought always to be remembered: for, though a freer use of the more cordial and spirituous kinds of liquors might perhaps soon abate rigor, there is danger to be feared from their influence on the approaching fever, especially in women of a strong and healthy constitution. In all cases, warm applications to the extremities, such as heated bricks, towels, or toasted grains in a linen bag, may be used with perfect safety, and some advantage.

When the hot fit is come on, an injection of milk and water, or the like, ought to be immediately given, and frequently repeated through the course of the disease. These prove beneficial, not only by promoting the discharge from the intestines, which seems in fact to be the means of curing the disease; but also by acting as a kindly fomentation to the womb and adjacent parts. With this intention

hey are particularly serviceable when the natural purgation
s suppressed. Great care, however, is requisite in giving
hem, on account of the tenderness and inflammatory
lisposition, which at that time render the parts about the
ottom of the belly extremely delicate with respect to the
ense of pain.

The next step in the method of cure ought to be, to pro-
iote the discharge of the corrupted matter from the stomach
nd intestines. For this intention Dr. Denman prescribes
he following remedy: Take of tartarised antimony, or eme-
c tartar, two grains; crabs eyes, prepared, one scruple.
Iix them well together into a powder. Of this he gives
om two to six grains, and repeats it as circumstances re-
uire. If the first dose does not produce any sensible effect,
e repeats it in an increased quantity at the end of two
ours, and proceeds in that manner, not expecting any
enefit but from some evident discharge produced by it.

Should the disease be abated, but not removed (which
ometimes happens), by the effect of the first dose, the
ame medicine must be repeated, but in a less quantity, till
l danger be over; but if any alarming symptoms remain,
e powder should be repeated in the same quantity as first
iven; though this is seldom necessary, if the first dose
perates properly.

If the first dose produce any considerable effect by vo-
iting, procuring stools, or plentifully sweating, a repeti-
on of the medicine in a less quantity will seldom fail to
swer our expectations; but great judgment is required
adapting the quantity first given, to the strength of the
atient, and other circumstances.

Saline draughts, made of salt of wormwood, tartar, or
li, and the juice of lemons, as have been before prescribed
other fevers, ought to be frequently given; which not
ly promote the discharge by the intestines, but likewise
crease those by urine and perspiration. These medicines
e particularly serviceable in subduing the remains of the
ver, after its violence has been broken by the more effica-
ous remedies above mentioned; but when they are used
en in the decline of the disease, gentle laxatives of rhu-
rb and magnesia ought to be frequently interposed; since,
ithout stools, little service can be done in this disease.

Notwithstanding the discharge by the intestines appears
have the most beneficial effect in this disease; yet, when
e stomach has not been properly unloaded of offensive

matter, though a great nausea and sickness had indicated the expediency of such an evacuation at the beginning of the fever, the continuance of the looseness is sometimes so long protracted as in the end to prove fatal. In this alarming state of the distemper, when the very frequent and involuntary discharges by stool, and all appearances, threaten danger, Dr. Denman says, that an injection made of linseed-tea, or chicken-water, and given every one, two, or three hours, or as often as possible without fatiguing the patient too much, with the following draught taken every six hours, has produced better effects than could be expected: Take of the powder of ipecacuanha one grain; opiate confection one scruple; mint-water, or cinnamon-water, an ounce and a half, which is about three table-spoonfuls. Mix them into a draught.

While these medicines are using, we should endeavour to mitigate the pains of the belly by softening applications. Take of chamomile-flowers two handfuls; the leaves of rue, or feverfew, one handful; three white poppy heads; fresh root of althæa, or marsh-mallows, one ounce. Let them be well beat, and boiled for five minutes, in a sufficient quantity of water. This decoction will serve as a fomentation, and the ingredients may be used as a poultice.

So great a variety of opinions has been entertained by late writers, respecting the nature and immediate cause of this disease, that it would be tedious to recite them: besides that such a narrative might justly be deemed unsuitable to the present work; the object of which is, not to examine the foundation of theoretical opinions, but to deliver, in the plainest manner, such practical observations and precepts as may be useful towards acquiring a competent degree of knowledge in the method of curing diseases.

Suffice it therefore to say, that the opinions of those writers are in general directly contrary to each other. But what is yet more remarkable, though they differ so widely with regard to speculative points, they come nearer to an agreement in the method of cure than could well be expected; and, in general, it is conformable to what has been delivered above.

From the account which has been given of this fever, it must appear clearly to be a disease of a very dangerous nature, when violent; and that to conduct a patient successfully through it, requires the utmost judgment and ability of a skilful physician. It is unnecessary to say any thing ore towards guarding against too much confidence in the reatment of this fever. I shall therefore conclude with ob- erving, that from all the most accurate accounts of this isease, and from the period at which it generally com- ences, there seems reason to infer, that it owes its rise ore immediately to accidents after delivery. For it is al- wed, that it may follow a labour under the best and most vourable circumstances, though endeavours to dilate the internum are supposed frequently to produce it. The ore immediate causes generally assigned by authors are a oppage of perspiration, the too free use of spices, and e neglect of procuring stools after delivery; sudden frights, o hasty a separation of the placenta, and binding the lly too tight. It is generally observed to be the most pre- lent in an unhealthy season, and among women of a eakly and scorbutic constitution.

CHAP. IX.

The Simple Scarlet Fever.

THIS fever receives its name from the colour which it duces on the skin. It begins with a chillness and shiver- like other fevers, but without much sickness. Then low heat, thirst, and head-ach; sometimes in a very derate degree, at others more violent. About the fourth the face swells, and the eruption makes its appearance, shape much broader, but less uniform than those of the asles; from which it is distinguished by a red-coloured sion, rather than distinct spots, and by not being accom- ied with any cough, or watering of the eyes. In three four days the redness disappears, and the outer skin peels in branny scales, which in many cases return for two or ee times. It generally appears towards the end of sum- r, and is more frequent among children than grown-up sons. Sometimes spots break out on the body like the ging of nettles, attended with much itching. But in three our days, like the former, they entirely cease, and are owed by a separation from the skin in extremely small les.

URE.—This is a disorder of the most simple nature, uiring nothing more than abstinence from animal food, flesh, fish, and fowl, and the keeping out of the cold air, with the free use of watery liquids, thin gruel, and moderate warmth whilst in bed; but if the symptoms should run high, and the pulse be very quick, full, and strong, bleeding may be necessary; and recourse likewise be had to the saline draughts, which have already been repeatedly mentioned in the cure of fevers. The body, if costive, should be kept gently open, by the use of crystals of tartar, manna, and the like. After the fever has entirely ceased, and the scarf-skin begins to peel off, two or three doses of gentle physic should be given.

There is another kind of this disease, called the malignant scarlet fever; but that being always accompanied with an ulcerous sore throat, to which it may probably be owing, it shall be treated of afterwards, in the account of such disorders.

Before I conclude the account of fevers, it may be proper here to observe, with respect to those of the continued kind, namely, the inflammatory, the putrid, and the slow nervous fevers, that though they are in general distinguished from each other by their peculiar symptoms, there frequently arise fevers in which the symptoms of all the three kinds appear in various degrees and combinations. These are termed mixed fevers, and require greater attention, as well as judgment, in conducting the cure; since no precise rules can be laid down for this purpose; but the physician must be governed by an accurate observation of the prevailing symptoms, and give his directions accordingly.

BOOK IV.

ON INFLAMMATIONS.

CHAP. I.

Of the Erysipelas, or St. Anthony's Fire.

HIS disease, otherwise called a blight, consists of an lammation of the skin, and subjacent fat, accompanied th an inflammatory fever, which seems to derive its origin m a sharpness of the thinner part of the blood. It most quently appears in autumn, or when hot weather is suc- ded by cold and wet; and is very apt to return in those o have once been afflicted with it. Any part of the ly may be attacked by the erysipelas, but it most com- nly seizes the face and legs, especially the former. Some- es it is a primary disease, and at other times only a sym- m of some other disorder,

ymptoms.—The erysipelas is generally preceded by d and shivering, after which come on heat, thirst, rest- ness, and other feverish symptoms. When the face is part affected, it swells suddenly with great pain, and a ing redness, inclining to yellow, on which appears a ber of small pimples, containing a thin, colourless li- r. One or both eyes are sometimes so much affected be closed up. The inflammation sometimes terminates even days; but at others it will continue for ten or lve, and at last goes off by a plentiful sweat. In the st cases the brain is affected with the complaint, and a ium comes on.

hen the disorder seizes the breast, the part swells, and mes hard, with great pain, which sometimes ends in an ess or ulcer. A violent pain is felt in the arm-pit of the affected, and there also the same event frequently es.

hatever part be affected, when the swelling falls, the and pain abate, the redness, which before prevailed, mes yellow, and the skin falls off in scales.

ch is the progress of the disorder in its milder state: when the swelling is large, deep, and affects a sensible part of the body, there is no small ground for apprehension If the red colour changes into a livid or black, a mortification is near at hand; and the same fatal event is apt to take place when the swelling, instead of being discussed, which is the only favourable termination, proceeds to suppurate; that is, to form a gathering in the part. When this disorder proves mortal, the patient commonly dies on the seventh or eighth day.

CAUSES.—The erysipelas may be occasioned by a stoppage, either of natural or artificial discharges, such as the piles, issues, setons, or the like. It may also be produced by excessive drinking; by drinking of, or bathing in, water that is too cold; by a sudden cooling of the body after it has been much heated; and, in a word, by whatever stops the perspiration. It may also be occasioned by violent passions or affections of the mind.

CURE.—The erysipelas, like the gout, requires to be treated with great caution, especially in respect of outward applications, these being in general dangerous. Even the mildest softening fomentations and poultices are found to do great harm, and much more those of the opposite quality, such as the cold and astringent. No outward application answers the purpose so well as a bit of soft flannel, or smooth linen rag, upon which is sprinkled some flour or powdered starch.

When the disorder is attended with a high fever, bleeding may become necessary; but, in the milder sort, it will be sufficient to use gentle purges, such as senna, crystals of tartar, and manna, frequently mentioned in the other fevers. If the swelling attack the face or brain, the feet and legs ought to be frequently bathed in warm water; and in this case, it is of great importance to keep the body open; which may be done by the purges just now mentioned, or by clysters: but where the head is greatly affected the purges must be made stronger, and blisters ought likewise to be applied to the neck, or behind the ears.

When the inflammation cannot be discussed, and there appears a tendency to produce matter, this ought to be promoted by warm fomentations, made of chamomile-flowers and the roots of the marsh-mallow; and with poultices of bread and milk, with the addition of some sweet oil: or with poultices of linseed, than which nothing answers better for this purpose.

When, on the other hand, there appears a tendency to

ortification, which may be known from the black or livid
lour of the part, cloths dipped in warm camphorated
irits should be immediately applied, and renewed often,
the same time that the part be frequently fomented with
strong decoction of the Peruvian bark.

In this dangerous case the bark must likewise be given
ternally, in as large doses as the stomach will bear. A
achm, if possible, every two hours, with ten or fifteen
ops of the elixir of vitriol, will generally prove of great
vantage.

The use of nitre has been much recommended in this
ease, and doubtless nothing is more suitable in a state of
gh inflammation; but when taken in large doses, it is apt
produce a sickness at the stomach: half a drachm, or
en a scruple, is often attended with this effect; but it may
given with advantage, and without much chance of ex-
ing a nausea, in the quantity of ten or fifteen grains,
ery three or four hours, in a little of the patient's drink.

If the swelling should suddenly sink, and the sharp hu-
our appear to strike in, and to be followed by oppression
l anxiety, with a weak pulse, it will be proper to give
ne, which the patient ought to use freely. In these cir-
nstances the following draught may likewise be given
ry six hours: Take of peppermint-water three table-
onfuls; salt of hartshorn five grains; aromatic confection
f a drachm. Mix them, and dissolve in the mixture a
e loaf sugar.

here is a kind of this disease called the scorbutic erysi-
as, which often continues a considerable time, but is at-
ded with little danger. It may be cured by keeping the
y open with gentle laxatives, and by promoting per-
ation. For the last-mentioned purpose it is common to
a decoction of the woods (decoct. sarsæ comp.): but the
will be sooner completed by using every night the fol-
ing draught: Take of gum guaiac one scruple; loaf
ar two drachms; beat them together into a powder, and
to it gradually three spoonfuls of peppermint water.

ometimes the erysipelas breaks forth about the middle of
body, surrounding it like a belt: it is then called the
gles. In this case there arise little pimples of a yel-
sh colour, but more frequently blackish, and both in ap-
ance and their corrosive quality resembling a tetter.
fever which attends this eruption is commonly slight;
if the pimples should be driven back, the event might

prove of dangerous consequence. When such an accident ensues, the patient must be treated in the same manner as has been already directed in circumstances of a similar kind.

When the disease is mild, it is not necessary that the patient be confined to bed, but he ought to keep within doors, and by the use of diluting liquors, drunk moderately warm, endeavour to promote perspiration. The diet should be of the slender kind, such as gruel, barley-broth, and light pudding; avoiding flesh, fish, and fowls, as well as spices, and every thing of a heating nature. The drink should be barley-water, balm or mint-tea, and such of that kind as are found to be most agreeable. If the pulse be low, however, and the patient drooping, he must be supported with things of a more cordial nature; such, for example, as negus, or weak wine-whey; but this must be done without over-heating him, as a moderate temperature, both in diet and air, is advisable through the whole of this complaint.

Those who are subject to frequent returns of the erysipelas ought to be sparing in the use of fat meats and strong drink, and confine themselves chiefly to a vegetable diet. They should guard against costiveness, and avoid the extremes of heat and cold. Moderate daily exercise is equally advantageous to health and the prevention of the complaint: and to wear a flannel waistcoat next to the skin has by many been found highly serviceable.

CHAP. II.

Inflammation of the Brain (Phrenitis).

AN inflammation of the brain is, for the most part, a consequence of fevers, but sometimes an original disease; and it is then extremely dangerous. The seat of it is either in the brain itself, or in the membranes which surround it.

SYMPTOMS.—In this disorder the temporal arteries, which are those on the temples, throb much, and the veins are distended; the eyes are very irritable, and cannot bear the light; the tongue is dry, rough, yellow, or black; there is a chattering of the teeth; a coldness of the external parts; a trembling of the hands, with which the patient endeavours to gather the nap of the bed-clothes: he appears to be outrageous, and often attempts to get out of bed.

CAUSES.—This disease is often occasioned by the stop-age of some customary evacuation, either natural or artiicial; such as the bleeding piles in men, and the monthly lischarge in women; the drying up of issues, setons, or any ld sores. Hard drinking, long watching, intense applicaion of the mind, and violent passions, may also produce it; nd it is sometimes occasioned by sleeping or working out f doors with the head uncovered, and exposed to the eams of the sun, when the weather is hot.

CURE.—Large and repeated bleeding is necessary in this lisorder, and ought to be performed in the jugular vein; fter which, leeches should be applied to both temples. While these evacuations lessen the quantity of blood in the ead, endeavours should also be made to solicit its motion owards the lower extremities. For this purpose the feet ought to be bathed in warm water, and poultices of bread nd milk, or sinapisms, be kept constantly applied to them. f the patient has been formerly subject to the piles, and ndeed whether he has or not, eminent practitioners advise us to apply leeches to that part. Sitting over the steams of hot water will also be useful; and if there be reason to think hat the disease proceeds from the stoppage of any particular ischarge, it ought to be restored as soon as possible, or ome other be substituted in its place.

In the mean time the body must be kept open by stimuating clysters, or purgatives. The head should be shaved, nd frequently washed with vinegar, or æther, or snow, &c. nd, if the disorder should continue, a blister be applied to it.

During the course of the disorder the patient ought to be ept quiet, but not debarred from the company of any peron whom he may be inclined to see; and, indeed, his humour should be gratified in every thing, as far as his safety vill allow. His chamber ought to be kept in a moderate egree of temperature, and just so much darkened as not to ender it melancholy; which might have a bad effect upon his nind. He ought to lie with his head considerably raised. The iment should consist of water-gruel, panada, and such things s are usual in inflammatory fevers; and the drink be bary-water, or decoctions of barley and tamarinds; lemonde; in either of which, or in whatever else of the kind he ay be inclined to drink, ten or fifteen grains of nitre should e given every two hours.

Every kind of phrenitis, whether a primary disease or ot, is attended with great danger; and unless removed efore the seventh day, it commonly proves fatal. The bad signs are, obstinate watchfulness, with a continual and furious delirium; a disposition to become stupid, or to faint; trembling, chattering with the teeth, hiccup, convulsions, trembling of the tongue, a shrill voice; thin watery urine, white stools, or both these discharges running off involuntarily. The last of all the bad symptoms, and which prognosticates a speedy dissolution, is a sudden cessation of pain, with apparent tranquillity. The following signs, on the contrary, are favourable: namely, a discharge of blood from the nose, or the hæmorrhoids; a looseness; sweats, by which the complaint is alleviated; and a swelling of the glands behind the ears. Where the brain has suffered much injury by a long distension of the vessels, it sometimes happens that the patient's senses never perfectly return, but there remains a degree of imbecility, or weakness of mind, during life.

CHAP. III.

Inflammation of the Eyes (Ophthalmia).

THE eye being a complex organ, consisting of various parts, the inflammation may here be very differently situated; and the symptoms will be more or less violent, as well as the consequences important, in proportion to the delicacy of the texture and function of the part particularly affected. In general, however, the inflammation of the eye may be distinguished into two kinds: one of which is seated in the membranes or coats of the ball of the eye, and the other in the edges of the eye-lids. But though either of these may at first exist separately, yet, as one may excite the other, they are frequently connected together in the progress of the complaint.

The inflammation of the membranes affects commonly the white of the eye; in which it excites a redness, attended with pain, and generally an effusion of tears. When the affection of this membrane is considerable, it may be communicated to the other membranes of the eye, and even to the very bottom of its orbit; in which case, the retina, situated in that part, acquires so great sensibility, that the smallest impression of light is apt to excite great pain.

CURE.—If the inflammation be violent, bleeding is necessary, and should be performed, as in the preceding article, from the jugular vein; applying afterwards several leeches round the eye. Blisters also should be applied to the temples, or behind the ears, and kept open for some time; the feet ought to be bathed in warm water; and some gentle purgative be given, and repeated every second or third day. For this purpose may be used cream of tartar, Glauber's salts, or senna, or even lenitive electuary. If the heat and pain of the eye be very great, a softening poultice of bread and milk, with some sweet oil, or fresh butter, ought to be applied at night, and warm milk be used as a fomentation next morning. A decoction of white poppy-heads may be used for the same purpose.

When the disorder is accompanied with watchfulness, twenty or twenty-five drops of laudanum may be given occasionally at night.

In an ophthalmia of long standing, a seton in the neck, or rather between the shoulders, is attended with great advantage; and in persons disposed to the disease, the constant use of it is equally beneficial as a preventive.

If the disorder arise from mere weakness of the vessels, it will be of advantage to bathe the eyes night and morning either with cold water alone, or with the addition of a little vinegar, or a sixth part of brandy. This application gradually strengthens the eye, and restores the elasticity of the vessels.

In the case last mentioned, or where the disorder proceeds from a scrofulous habit of body, and therefore proves obstinate, a dose of the Peruvian bark, in the quantity of half a drachm, should be taken twice a day, and continued for some time.

In an inflammation of the eyes, a looseness coming on spontaneously is a good sign, and frequently carries off the complaint. It is also considered as a favourable sign, when the inflammation passes from one eye to the other, in the way of infection.

In obstinate cases of ophthalmia, great benefit has been received from the use of errhine medicines, or those which excite sneezing. For this purpose the powder of asarabacca, snuffed up the nose at bed-time, has produced good effects; and even common snuff, in persons not accustomed to it, has been successfully used for the same intention.

In obstinate inflammations of the edges of the eye-lids, red nitrated quicksilver, finely levigated, and made into an ointment, with the addition of a little opium, is a very efficacious remedy. It should be carefully applied to the parts affected at bed-time, with a camel-hair pencil, keeping the eyes fast shut after it.

Inflammations are sometimes followed by specks in the eye; for removing which, it is of service to blow into the eye, by means of a small tube, some of the following substances in powder: viz. calamine-stone, tutty, white vitrol, sugar, or the like. For the same purpose, solutions of vitriolated zinc, or acetated ceruse, may be dropped into the eye.

For the cure of watery eyes, it is proper to wash them with brandy and water, as above directed, and to keep the body open by gentle laxatives; at the same time drinking daily a pint of the decoction of the woods (decoct. sarsæ comp.) A seton between the shoulders, or an issue in the arm, is, in such a case, also highly serviceable.

During a severe inflammation of the eyes, every thing of a heating nature must be avoided, and the patient ought to live chiefly on mild vegetables, weak broths, and gruel; using for drink barley-water, balm-tea, and the like. His chamber ought to be darkened, and he should avoid looking at any luminous or bright object, such as a candle or fire. When the inflammation arises from any mechanical cause, it should be removed as soon as possible, and the eye preserved in a state of rest.

CHAP. IV.

Inflammation of the Ear (Otitis).

BY this disorder is to be understood an inflammatory state of the internal parts of the ear, the membranes of which, on account of their being well stored with nerves, are endowed with great sensibility. This inflammation, therefore, is generally attended with great pain and a feverishness, which, if the more internal parts be affected, frequently runs high, and a delirium ensues.

CAUSES.—This complaint, like other inflammations, may proceed from a stoppage of perspiration, or a current of cold air pouring forcibly into the ear, through narrow crevices in doors or windows. It may likewise be occasioned by acrid humours falling upon the membranes of the ear; or by any thing of a stimulating nature that insinuates itself into the cavity of this organ.

CURE.—If *cold* be the cause of the complaint, the head must be kept warm. If it proceed from acrid or sharp defluxions, a warm infusion, or decoction, of poppy-heads in water may be injected into the ear. But if the disorder be occasioned by any living insect, that has crept into the ear, a proper application is the smoke of tobacco, after which a little warm oil may be poured into the part; and, if the pain be very troublesome, a few drops of the tincture of opium, or laudanum, may be added to it.

In slight cases, this treatment will generally prove sufficient; but should the disorder be severe, bleeding and purging may be necessary, accompanied with a slender diet, as in other inflammations; and it will be proper to apply leeches, and afterwards, if requisite, a blister behind the ear; bathing the feet also in warm water. If the pain be violent, and the patient gets no rest, a dose of laudanum suitable to his age may be given; reckoning twenty-five drops as a dose for a grown up person.

Should the disorder not be resolved by the means above mentioned, but a throbbing pain still continue, it is a sign that a suppuration will take place; and we must promote it by applying externally warm poultices of bread and milk, with the addition of a little sweet oil, or fresh butter. When the abscess bursts, the ulcerated part must be kept clean by injections of warm water, in which is dissolved a little soap. But a preferable injection is barley-water, to half a gill of which add an ounce and a half of honey of roses, and a table-spoonful of the tincture of myrrh. This will promote the discharge of matter, keep the ulcerated parts clean, and forward the healing of the part. In this case warm balsamics are recommended to be introduced into the ear, as low as convenient: viz. pellets of cotton, or wool, dipped in essence of amber. For the same purpose may be used the tincture of myrrh, or balm of Gilead. All digestive or oily liniments should be avoided.

CHAP. V.

Quinsey, or Inflammation of the Throat (Tonsillatis).

THIS disorder is divided into two species; viz. the inflammatory, and the malignant; the former of which is distinguished by authors into several subdivisions, according to the parts most affected. It is a complaint very frequent in this country, and is more dangerous, as it sometimes not only obstructs deglutition, or the power of swallowing, but even respiration, or that of breathing.

CAUSES.—This disorder is most frequently owing to a stoppage of perspiration, particularly about the neck; drinking too cold water, or any other liquid, when a person is overheated; the suppression of some accustomed evacuation; or a peculiar state of the air rendering the complaint epidemical. It is very apt to be occasioned by wet feet; and a few returns of the disorder create a disposition to contract it. It occurs chiefly in spring and autumn, when vicissitudes of heat and cold frequently take place; and is most incidental to persons of a sanguine temperament. It terminates often by resolution, sometimes by suppuration, but very rarely by gangrene; though in some cases sloughy spots appear about the top of the throat.

SYMPTOMS.—In this disorder the tonsils and upper part of the throat are affected. For the most part, the inflammation begins in one tonsil, then, spreading across the palate, seizes the uvula, and the other tonsil. If only one side of the fauces or throat be affected, though considerable pain attends the action of swallowing, still that action may be tolerably well performed; but when both sides are affected, not only swallowing becomes extremely difficult, but the pain is sometimes so violent, as, in delicate habits, even to occasion convulsions.

It may appear surprising that more pain should be felt in swallowing liquids than solids: but such is the fact; and the reason of it is, that a greater portion of muscular fibres is employed in swallowing the former than the latter.

While the inflammation is confined to the parts above described, there is not much danger, especially if the neck appears puffed up, this being considered as a favourable sign. But if the inflammation extends itself to the muscles about the top of the wind-pipe, there is a possibility of the patient's being suffocated. There is also danger of the brain or lungs being affected by a translation of the inflammation to those parts.

The disorder is manifest from the redness, tumor, and heat of the tonsils, rendering deglutition painful; besides a quick, hard pulse, and other symptoms of fever.

CURE.—The same treatment is proper here as in other inflammatory disorders. The food must be of the lightest, and the drink of the weakest kind. The patient ought to be kept quiet, and to speak as little as possible. The temperature of his chamber should be such as to favour perspiration; and, when in bed, he ought to lie with his head a ittle raised, in the same way as in other inflammatory disorders affecting the head. It is particularly of great consequence that the neck be kept warm, by wrapping round it ome folds of soft flannel; which expedient alone, if employed early, will often remove a slight affection of the throat.

Bathing the feet and legs in warm water is also of great mportance in this disorder; and, in conjunction with the means before mentioned, might so check the complaint at the beginning, as to render the farther aid of medicinal application unnecessary.

As the parts affected by the quinsey *(cynanche)* are naturally furnished with a quantity of mucus, or slimy liquor, the retention of which would increase the complaint, the use of gargles, in this case, is attended with great advantage. For this purpose may be employed sage-tea, with a little vinegar and honey. The mixture may be improved by adding to it a little jelly of black currants, or, in defect of that, some jelly of red currants. If the patient be troubled with thick tough phlegm, a tea-spoonful of the spirit of sal ammoniac may be added to half a pint of the preceding mixture. With this the patient ought to gargle his mouth every three or four hours.

When the fever accompanying the inflammation runs high, bleeding is necessary, performed in the arm, or rather in the jugular vein; and after this evacuation, leeches ought to be applied to the throat. Great benefit is found from applying to the same part a thick piece of flannel, moistened with a mixture of two ounces of oil of olives and one ounce of spirits of hartshorn. This application ought to be renewed every four or five hours; and should it not prove effectual, a blister should be applied in its room.

The body, in the mean time, ought to be kept gently open, either by an infusion of senna, or a decoction of figs and tamarinds.

Where the means above recommended have been diligently used, it seldom happens that the disorder proceeds to suppuration; but when there is evidently a tendency to this effect, it will be forwarded by breathing through a funnel the steams of warm water, in which is put a bit of camphor grossly powdered. Softening poultices of bread and milk, with some oil, ought likewise to be applied outwardly.

In some cases, the swelling becomes so large, before it is ripened, as entirely to obstruct the entrance to the gullet *(œsophagus)*, so that neither aliment nor drink can get down into the stomach. There are then no other means of preserving the patient's life but by nourishing clysters, which may be made of broth, thin jellies, gruel and milk, &c. In such circumstances, patients have been supported in that manner for several days, till, by the breaking of the abscess, the passage to the stomach has been opened.

When the abscess is attended with much swelling, if it break not spontaneously, it ought to be opened with a lancet.

When the disease runs rapidly to such a height as to threaten suffocation, it is sometimes necessary to have recourse to an operation, as the only expedient for saving the life of the patient. The operation alluded to is bronchotomy, by which an incision is made into the wind-pipe for the purpose of respiration; but there occur very few instances in practice where recourse to this expedient is necessary.

There is sometimes a difficulty of swallowing unattended th any inflammation. This generally proceeds from an struction or enlargement of the glands about the throat, d requires nothing more than keeping the neck warm, nd gargling the throat with some water, vinegar, and honey.

Persons who are subject to inflammations of the throat are apt to have a return of the complaint upon any irregularity in point of living. They ought, therefore, to be temperate; or, if not, to carry off the superabundance of humours by purging, and other evacuations. They ought, likewise, to guard well against cold, and avoid whatever is of a stimulating nature in diet. Drinking cold liquor immediately after violent exercise is very prejudicial; as is likewise a sudden exposure to cold air, after any great exertion of the throat by speaking or singing. The same caution is advisable after drinking warm liquors.

After an inflammation of the throat, the glands of that part sometimes continue swelled, and acquire a degree of hardness which is difficult to be removed. No attempt should ever be made to resolve these tumors by any stimulating application. The best way is to keep the throat warm, leaving the swellings to dissipate spontaneously by time, and only gargling twice a-day with a decoction of figs, or barley, sharpened with a little vinegar.

Of the Malignant Quinsey, or Ulcerous Sore Throat, (Angina maligna, or Cynanche maligna).

This kind of quinsey is more dangerous than the preceding, and of a highly contagious nature. It seizes children more readily than adults, women than men, and the delicate than the robust.

CAUSES.—It originally derives its source from the same causes with putrid fevers, which it likewise resembles; but those which chiefly produce it in the first instance are, unwholesome air, damaged provisions, and obstructed perspiration, in persons predisposed to the disease: it is afterwards propagated by the breath from one patient to another.

SYMPTOMS.—It begins, like most fevers, with fits of shivering and heat alternately. The pulse, though quick, is low and unequal. The patient complains of weakness and oppression at the breast; has great dejection of spirits; and, on being set upright, is apt to faint away: the tongue is moist; the eyes heavy and watery; the countenance frequently full, flushed, and bloated; though occasionally pale and sunk; the breathing is quick and laborious; the skin extremely hot, and, in many cases, there is an eruption or efflorescence resembling scarlet fever; the urine commonly pale, thin, and crude; but in some adults it is made in small quantity, and high coloured, or turbid, like whey. The throat is sore and inflamed, exhibiting a shining redness, of a deeper colour than in common inflammatory sore throats, and interspersed with pale or ash-coloured spots. There is sometimes a delirium, though the symptoms appear slight; the swallowing is difficult, and more so on swallowing the saliva only, than of any liquid or soft die The patient is troubled with a nausea, or sickness at th stomach, and often with a vomiting or purging; but the two latter are most common in children. An efflorescence or eruption frequently breaks out upon the neck, breast, and arms, about the second or third day; and when this appears, the evacuations just now mentioned generally cease.

The malignant sore throat may be distinguished from the inflammatory by the looseness and vomiting; the puffy and dark-coloured redness attending the swelling; and by the fetid ulcers of the throat, covered with white or ash-coloured sloughs. It may also be distinguished by the slight delirium appearing early in the disease; and by the sudden weakness with which the patient is seized.

It is accounted favourable in this disorder when the eyes are bright; when there is no great degree of weakness or fainting; when the sloughs are white, and the eruption on the skin has a florid appearance.

But if the weakness be great; if the ulcers be ash-coloured, black, or livid; if the pulse should be weak and small, accompanied with a looseness, or shivering; if the eruptions disappear, or become livid; if the eyes look very dull; if the nose bleeds; and if the body puts on a cadaverous appearance; under this accumulation of symptoms nothing else can be expected but a fatal termination of the disease.

CURE.—The great weakness which accompanies this disease renders bleeding and all other evacuations improper. If, however, at the beginning of the complaint there be an inclination to vomit, it ought to be promoted by drinking an infusion of chamomile flowers; and if this prove insufficient, a few grains of ipecacuanha may be given. Early vomiting is of great advantage, by cleansing the stomach and bowels of their putrescent contents, which tend greatly to aggravate the disease; and, indeed, it is so beneficial as frequently to put an entire stop to the disorder.

To support the patient's strength, to correct the putrid tendency of the humours, and to keep the ulcers clean, are the objects which require our chief attention in the treatment of this disease.

When the violence of the disease threatens danger, the best remedy is the Peruvian bark, of which half a drachm, or two scruples, in powder, may be given in a glass of red wine, every three or four hours. But if the patient's stomach cannot bear the bark in substance, two ounces of it, grossly powdered, with half an ounce of Virginian snake-root, may be boiled in three pints of water for ten minutes; and to the liquor, when strained, two tea-spoonfuls of the elixir of vitriol may be added. Three table-spoonfuls of this may be given every three or four hours.

If the sickness at the stomach, with an inclination to vomit, should continue to prove troublesome in the progress of the disease, the saline draughts, formerly mentioned in the cure of fevers, should be given every two hours, or oftener. For example: Take of salt of wormwood, or kali, one scruple; juice of lemons, a large table-spoonful; mint-water, two table-spoonfuls, and a bit of sugar: mix them, and give the draught in the state of effervescence; that is, while the mixture continues to send forth a smoke and a hissing noise. In this state of the disease, the patient ought likewise to use for common drink an infusion of spearmint, adding to every dose of the liquor an equal quantity of red wine.

If the patient should be troubled with a violent looseness, the bulk of a nutmeg of the electuary of catechu may be given every four or five hours.

During the progress of the disease, it is necessary to gargle the throat frequently. For this purpose an infusion of sage and rose-leaves, to a gill of which is added a large spoonful of honey, and as much vinegar as will give it an agreeable sharpness, may, in many cases, prove sufficient; but under unfavourable circumstances of the complaint, boil half an ounce of the root of contrayerva in half a pint of barley-water for a few minutes, and add to the strained liquor a large table-spoonful of fine honey, with four table-spoonfuls of the best vinegar, and two table-spoonfuls of incture of myrrh. Besides gargling with this mixture, some f it ought to be frequently injected with a syringe to clean the throat, before the patient takes any food or drink; as therwise the sloughs, and putrid discharge from the ulcers, may be carried down into the stomach, and aggravate the isease.

To correct the gangrenous disposition of the parts about he throat, the patient ought frequently to receive into his mouth, through an inverted funnel, the steams of warm inegar, myrrh, and honey.

The mineral acids, such as elixir or spirit of vitriol, or of alt, should be frequently given in the quantity of ten or fteen drops, in a cupful of the patient's drink, or the infu- on of roses.

When the pulse is low, or the tumor about the throat onsiderable, blisters should be applied to the throat, be- nd the ears, and upon the back part of the neck.

In some cases there happens a discharge of blood from e nose, which not being critical, or tending to alleviate e complaint, requires to be stopped. For this purpose the steams of warm vinegar may be received up the nostrils frequently, and the acids above mentioned be freely used.

If the patient be troubled with a strangury, or stoppage of water, the belly ought to be fomented with a decoction of chamomile-flowers and linseed, and softening clysters be given every four or five hours.

When the disease has ceased, the belly ought to be kept gently open with senna, manna, rhubarb, or the like, for a little time, to carry off the putrid dregs that may remain in the intestines; and if the patient continues weak, he ought to persevere for some time in the use of the Peruvian bark, and elixir of vitriol; with daily exercise on horseback. He ought likewise to take frequently a glass of some rich wine; and in case of a great debility of the digestive powers, to make use of a milk-diet.

CHAP. VI.

Of a Catarrh, or Cold.

THIS complaint is so universally known, that it would be superfluous to describe it. The chief characteristic symptom, however, is an increased discharge of mucus from the nose, the top of the throat, and the wind-pipe. It is always occasioned by a stoppage of perspiration; and is of different degrees, according to the violence of the cause, or the constitution of the person. So many accidents may affect the discharge by perspiration, that a partial suppression of it must sometimes unavoidably ensue, in all persons, climates, and seasons. Even those who are the most careful to avoid catching cold, only render themselves more susceptible of the complaint upon the slightest exposure to the means by which it is usually excited.

If early attention be given to a cold, nothing is more easy than to remove it; but, when long neglected, it may prove not only obstinate, but fatal; and indeed the greater part of diseases is originally owing to this cause.

As soon as a person is sensible of having taken cold, he ought to retrench his diet, at least to diminish the usual quantity in the article of solid food, and to abstain from all strong liquors. A slender diet only is proper; such as light puddings, roasted or boiled apples; veal or chicken broth,

&c. The drink should be barley-water, pectoral decoction, linseed-tea with a little juice of lemon, or water-gruel sweetened with honey: where honey disagrees with the stomach, treacle or moist sugar, with the addition of some jelly of currants, may be used in its stead. The best supper is a slice of toasted bread, with some water-gruel and honey, to which may be added a glass of white wine.

Water-gruel being thus taken at bed-time, and the feet and legs bathed in warm water, the body will be disposed to perspire in the course of the night; and the more to favour perspiration, the patient should lie longer in the morning than usual, and even drink some warm diluting liquor in bed.

In this manner a common cold may frequently be carried ff in a day, which, if neglected, might be attended with he most pernicious consequences. For during a cold here is a constant spasm, or chillness on the surface of the ody, which goes on increasing the stoppage of perspira- ion, till that discharge be restored; and if this be long de- ayed, the united quantity and acrimony of the fluids retained nay be productive of fatal effects.

It is an opinion, acted upon by many, that nothing cures cold more effectually than a debauch in wine, hot punch, r other strong liquors: but it is a dangerous experiment; nd though, by restoring perspiration, it may prove a cure some cases, it may, in others, convert a slight complaint to an inflammatory fever, perhaps an inflammation of e brain, or lungs, the issue of which is very precarious.

If notwithstanding a slender regimen of diet, temporary armth, and the use of diluting liquors, the complaint ould not cease, but be attended with a quick pulse, a in of the head or breast, and a hot, dry skin, it will be cessary to bleed, and afterwards to open the body by ne gentle purgative, such as senna, rhubarb, &c.

If the stomach be loaded with phlegm, an emetic of ipe- cuanha will be proper. At the same time, it will be ad- able to apply a blister between the shoulders; and to c, every two or three hours, two table-spoonfuls of the owing saline mixture: Take of mint-water half a gill; of wormwood, or kali, three drachms; juice of lemon, r table-spoonfuls; sugar, half an ounce: mix them.

n persons of a phthisical or consumptive disposition, a ca- h may bring on a spitting of blood, or may inflame tu- cles in the lungs, which, if already existing in that organ, may thence be excited to a speedy and fatal suppuration. It may also prove of dangerous consequence to persons advanced in years, either by occasioning a bastard peripneumony, as it is called, or laying the foundation of a chronic catarrh, which will render both health and life extremely precarious ever after.

When a cold is unattended with any degree of fever, yet does not go off by keeping the house for a day or two, the person will be better for taking some exercise, well covered, in the open air; as too close confinement will expose to the danger of a relapse, and thereby protract the complaint.

A cold would be much less frequent, if people, when they found it coming on, were to keep cool, avoid wine and strong liquors, and confine themselves for a short time to a vegetable diet, using only toast and water for drink. It would be a great preventive of this complaint, were people to take more pains to accommodate their dress to the season. If we were warmly clothed in cold weather, our excitability would not be accumulated by the action of the cold.

Common Cough.

A cough is most commonly the effect of obstructed perspiration; and though it does not immediately succeed that event, it supervenes in a short time, if the complaint be either neglected, or treated improperly. Sometimes a cough will subsist during life, without much inconvenience to the person, except on using hard exercise, or being otherwise considerably heated; but as the lungs are an organ of so great importance to life, we ought as soon as possible to remove every cause that has a tendency to affect them.

In phlegmatic and relaxed habits, the cough is generally moist; but in those of a scorbutic disposition, for the most part dry. In both cases, however, it is serviceable to keep the body in an uniform state of warmth; and to avoid malt-liquors, spices, and whatever tends to agitate the blood.

If the cough be violent, and the person young, and of a strong constitution, with a hard quick pulse, the safest course is to begin the cure with bleeding; but this evacuation is not to be recommended in relaxed habits, as in such it would prolong the disease. When the patient spits freely, bleeding is likewise unadvisable, on account of its tendency to diminish that discharge, which, wherever a cough subsists, is of a salutary nature.

When the spittle is viscid and tough, and there is no degree of fever, the proper remedies are those of an atte- iuating kind, or such as have the quality of rendering the iumours more thin. Of this class of medicines, gum am- noniac, and squills, are the pectorals chiefly used. Take f gum ammoniac, two drachms; mint-water, half a pint: lissolve the gum in the water; and let the patient, if a rown up person, take two table-spoonfuls of the mixture iree times a day. Squills may be used either in the vinegar ncture, the oxymel, or the syrup. Two ounces of any of iese may be mixed with an equal quantity of simple cinna- ion-water, and taken in the quantity of a table-spoonful vo or three times a day, if they do not disagree with the omach.

As a domestic remedy, of the same nature, a very service- ble one is a mixture of lemon-juice, honey, and sugar- indy, in equal parts. A table-spoonful of this mixture ay be taken at pleasure.

Such are the medicines to be used when the matter dis- arged by coughing is of a viscid and tough kind; but ien, on the contrary, the defluxion is thin and sharp, the oper remedies are those which thicken and sheath the hu- urs; such as oils, mucilages, and gentle opiates. For this rpose may be employed an infusion of marsh-mallow roots, seed, or the flowers or leaves of colt's-foot; to any of which y be joined a head or two of the white poppy; and a tea- oful of the infusion be taken every two hours. Or, instead these, the patient may take, twice a day, a tea-spoonful of nphorated tincture of opium in a cupful of his drink. the same purpose, an infusion of liquorice-root may be d; or rather a decoction made of the root, by boiling it ttle. The extract of the same root, under the name of nish-juice, held in the mouth, and gradually swallowing solution, is likewise a suitable medicine. This will also ery proper, where the cough is occasioned by acrid hu- irs tickling the throat and adjacent parts; or in room of iay be employed some barley-sugar, or common bal- ic lozenges. As a substitute for these, the following bative may be used: Take of oil of almonds, and p of white poppies, each an ounce; mix them with e drachms of sugar, and let the patient take frequently oonful.

If the cough be dry, a blister may be laid between the shoulders, and kept open for a few days.

In obstinate coughs, arising from a flux of humours upon the lungs, the cure should not be left entirely to the effect of medicines alone, but an effort ought to be made to discharge the humours by issues or setons, which often prove very successful. Some, for the same purpose, recommend a small plaster of Burgundy-pitch to be applied between the shoulders, and used for a long time.

A dry cough sometimes proceeds from tubercles, or small tumors in the lungs, which by irritating that organ, and obstructing the motion of the blood through it, excite the action of coughing. In this case, the attenuating medicines above mentioned, namely, gum ammoniac, and squills, are the remedies best adapted; but they ought to be used only in a small quantity, lest they should too much irritate the lungs, and occasion a suppuration of the tubercles. But indeed it is better to abstain from the use of such deobstruent medicines, without the advice of a physician: for, where the lungs are much affected, great caution is requisite in having recourse to remedies of an active kind. In those habitual coughs, however, of long standing, it is of great service to wear flannel next the skin, so as to support the perspiration uniformly, and prevent any increase of the complaint. Malt-liquors are improper in such cases; as is likewise all food of a viscid or tough nature. A free use of honey, in dry coughs proceeding from the cause last mentioned, is attended with advantage.

Sometimes coughs have their origin in the stomach, and not in the lungs, which are affected only by sympathy; in which case the cure depends chiefly upon cleansing and strengthening the primary seat of the disorder. After giving a vomit or two, therefore, a stomachic tincture, made of Peruvian bark, and bitters, either in wine or brandy, as directed in the chapter on intermittent fevers, will be advisable. The patient should also use exercise, particularly riding on horseback; and, if of a costive habit, may occasionally take at bed-time five grains of aloes made into a pill. The following mixture would serve both as a laxative, and a safe medicine for resolving the tubercles in the lungs: Take of Castile soap, two drachms and a half; socotorine aloes, powdered, half a drachm; common syrup, as much as will make them into thirty-six pills. Three to be taken every night and morning.

When a cough proceeds entirely from an affection of the erves, no benefit can be expected from any of the remeies above mentioned, and the only effectual means of reioving it are by strengthening the body. The best meicine is the Peruvian bark, with a light nourishing diet, anquillity of mind, and daily exercise on horseback. A fit f the complaint, however, may be much relieved by the ccasional use of fetid medicines, such as asafetida, which ay be taken in the following form, in the quantity of a ble-spoonful: Take of asafetida, one drachm; cinnamonater, four table-spoonfuls. Dissolve the gum in the water, nd keep the mixture for use. For the same purpose, twenty rops of the spirit of hartshorn may be taken in a spoonful of ny liquid. Smelling to the same kind of medicines somemes produces good effects; as does likewise the immeron of the feet and hands in warm water, or the tepid bath.

In children, a cough is sometimes occasioned by teething, nd at others by worms; in both which cases, it is to be ured by such medicines as are adapted to those comlaints.

It is not uncommon for women to be troubled with a ough during the last months of pregnancy. The comaint is greatly relieved by small bleeding, and keeping e body gently open by lenitive electuary, or some other xative; avoiding at the same time all food of a flatulent ture.

A cough has by some been represented as the frequent re-runner of the gout; but it is more probable that, in such ses, both the cough and gout derive their origin from an cidental impediment to perspiration.

In all habitual coughs it is of advantage to wear flannel xt the skin: for there is an intimate connection between e lungs and the surface of the body; so that, by supporting e perspiration uninterrupted, the lungs are preserved om a fluxion which would otherwise fall upon them. It nnot be too often repeated, that guarding against wet et, in particular, is of great consequence wherever there a natural disposition to complaints of the breast. Cough ne is not a disease, but a symptom, often troublesome ough, of the several diseases above enumerated.

CHAP. VII.

Pleurisy (Pleuritis, Pneumonia).

THIS is an inflammation of the pleura, the membrane which lines the thorax. It is most frequent in men of a robust constitution, and prevails chiefly in the spring.

CAUSES.—Many of the general causes of fevers may give rise to the pleurisy. It may be occasioned by whatever obstructs perspiration; frequently by cold northerly or easterly winds; wet clothes; sleeping without doors on the damp ground; drinking cold liquors when a person is hot; plunging the body into cold water, or exposing it to the cold air, during a strong perspiration. It may likewise be occasioned by the stoppage of accustomed evacuations, natural or artificial; or by the sudden disappearance of any eruption on the skin. It may besides owe its rise to violent exercise, or to drinking strong liquors.

SYMPTOMS.—The pleurisy, in common with most of the acute diseases, generally begins with a sensation of cold and shivering, followed by heat, thirst, and the usual attendants of a fever. The pulse is quick, hard, and strong; and an acute pain or stitch is felt in one of the sides, most commonly the right, which increases upon inspiration. A difficulty of breathing succeeds, accompanied with a short cough, dry in the beginning of the disease, but afterwards sometimes moist. When matter is expectorated, it is usually phlegm, either streaked with blood, or yellowish.

CURE.—Nature frequently makes an effort to expel this dangerous disease by some of the outlets of the body, or by a bleeding in some particular part; but the most usual channel is by expectoration from the lungs, with which the membrane of the pleura is intimately connected. No crisis, however, can be expected while the motion of the blood is rapid and tumultuous, and every means must be used for bringing it to a state of moderation. The patient, as in every other fever, must be kept quiet, cool, and easy. His diet must be of the most slender kind, such as gruel, panada, and the like; and his drink barley-water, or a decoction of barley, figs, and raisins, to which, towards the close of the boiling, may be added some liquorice-root. All the food

l drink ought to be taken a little warm, and never much
ı time; but the patient should keep continually sipping
m, to moisten and relax the throat and the adjacent
ts. He ought also to take ten grains of nitre in some of
drink, every three hours, during the first three or four
s of the disease. As a cooling attenuant, or thinning
licine, in this disease, ten or fifteen grains of nitre, with
e or four grains of salt of hartshorn, have great effect.
feet and hands ought to be bathed two or three times
ly in warm water; and he may sometimes sit up in bed,
n to relieve his head, and favour a discharge by expec-
tion.

carce any disease requires more plentiful bleeding than
leurisy; and the blood should be taken from a large
ce. From a man of a good constitution, twelve or four-
ounces, or upwards, may be taken at once; but a
ler quantity from a person of a more delicate habit. If,
the first bleeding, the symptoms should still continue
ent, that is, if the stitch be very painful, and the pulse
, full and strong, it will be necessary to repeat the ope-
n at the distance of some hours; and even a third, and
rth time, should there be no mitigation of those sym-
s, and the blood that has been drawn shows a strong
coat.

side; bleeding from the arm, topical bleeding is of
t advantage. This may be performed with leeches ap-
l immediately over the part affected with the pain, or
r by means of cupping-glasses with scarification.

nollient or softening fomentations, made of chamomile-
rs, and common mallow roots boiled in water, may
pplied to the part; and flannel cloths dipped in the de-
on, and afterwards wrung out, be laid over it as warm
patient can bear. As soon as the cloths cool, they
t to be changed, and great care taken to prevent the
nt from catching cold. The part may also be anointed
a liniment composed of two parts of oil of olives, and
f spirit of hartshorn.

after these applications, and repeated bleedings, the
should still continue, a blister ought to be laid upon
art affected, and suffered to remain open for two days.
not only excites a beneficial discharge from the side,
s the effect of removing the spasm, or constriction,
occasions the inflammation of the part. To prevent

a strangury, which is often caused by blisters, the patient may drink of the Arabic emulsion* or camphorated mixture at pleasure.

If during the illness the patient be bound in the belly, a clyster of milk and water, or of a decoction of linseed, may be given every day, both to empty the bowels, and by its relaxing quality to draw the blood downwards from the breast.

In the mean time expectoration is to be promoted as much as possible. For this purpose mucilaginous and oily medicines are proper. Take of spermaceti, two drachms; ammoniac milk, half a pint; sugar-candy, half an ounce; with as much of the yolk of an egg as is sufficient to mix them together. Two table-spoonfuls of this mixture to be given every five or six hours.

Expectoration may likewise be promoted, by receiving into the lungs the steams of warm water, to which a portion of vinegar is added.

If expectoration proceeds well, and is sufficiently copious for a few days, the patient is perceptibly much relieved; but if it should stop, and not be succeeded by some other evacuation, the case is dangerous. In such circumstances, if the pulse will bear it, some more blood ought to be taken away, and blisters applied.

If the pulse flags, and expectoration proceeds very slowly, besides the remedies above mentioned, blisters ought to be applied to different parts of the thorax, or chest.

Different opinions are entertained respecting the use of opiates in inflammatory disorders of the breast. It appears, however, that in the beginning of the disease, and before bleeding and blistering have produced some abatement of the pain, and of the difficulty of breathing, opiates have a tendency to increase those symptoms. But in a more advanced state of the disease, when the difficulty of breathing has abated, but the cough is troublesome, and prevents the patient from resting, opiates may be employed both with safety and advantage. In such circumstances, therefore, a tea-spoonful of ammoniated tincture of opium, or paregoric elixir, may be given three or four times a day in a little of the patient's drink.

After bleeding and other evacuations have been pre-

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* See *Appendix.*

ed, a decoction of seneka-root * has been found of great
antage in the pleurisy. It may be taken in the quantity
two, three, or four table-spoonfuls, as the patient's sto-
n will bear it, three or four times a day. If it should
asion vomiting, a third part of simple cinnamon-water
be added to every dose.

fter bleeding, and the bowels being cleansed, the fol-
ing remedy has also been used with great success:
e of calomel, three grains; opium, half a grain; make
n into a bolus with any conserve. The quantity of
ingredients may be varied according to circumstances;
lose taken two or three times a day, and plenty of bar-
vater, or other diluting drinks, be used.

ometimes nature endeavours to carry off the disease by
lating the inflammation to a different part of the body,
he shoulder, back, &c. On discovering such an ap-
ance, every aid should be given, by softening fomenta-
, and stimulating plasters, such as the compound plas-
of Burgundy-pitch, to solicit the translation to the

fter the loss of much blood in this disease, care must be
n that the body be replenished with healthy juices; for
h purpose the patient ought to use a light diet of easy
tion. When the pain and fever are gone, he should
ise take a few doses of some gentle physic.

Paraphrenitis (Diaphragmatis).

is is an inflammation of the diaphragm, and is so
y connected with the pleurisy, as well in its nature as
manner of treatment, that it scarcely can be consider-
a separate disease. It is accompanied with a high
and a violent pain in the part affected, which is in-
ed by every exertion in which the diaphragm is con-
d; such as coughing, sneezing, going to stool, draw-
the breath, &c. The disease is sometimes attended
kind of involuntary grin. The treatment is, in every
t, the same as in a pleurisy.

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† See *Appendix.*

CHAP. VIII.

Peripneumony, or Inflammation of the Substance of the Lungs.

THIS disease is accompanied with great oppression at the breast, and difficulty of breathing, with a fever and cough. The breath is hot, the face red, and the pulse sometimes imperceptible; but after bleeding, it becomes stronger, though unequal. It differs from a pleurisy in the cough being more moist, the pain less acute, and the pulse not so strong.

CURE.—The treatment of the peripneumony, both in diet and medicines, is in general the same as in the pleurisy. When the oppression at the breast is very urgent, bleeding is necessary at the beginning of the disease; but is afterwards to be repeated with caution. The body should also be opened by emollient or softening clysters. But if the matter spit up by the patient be of a thick consistence, and he expectorates freely, there will be no occasion for recourse to bleeding; and it may be sufficient to assist expectoration by remedies for that purpose. Take of nitre, and spermaceti, each one drachm; salt of hartshorn, ten grains; sugar-candy, two drachms; common water, half a gill; mix them together with a little yolk of egg, and give a table-spoonful every three hours. At the same time, blisters should be applied to the back and sides, first to one, and afterwards the other, unless the pain be confined to one side.

Should there be a free discharge of florid frothy blood from the lungs, more bleeding will be necessary, if the patient's strength admit of it; but this evacuation is by no means to be employed, when the discharge from the lungs is thin, black, and fœtid.

When an inflammation of the lungs does not yield to bleeding, blistering, and other evacuations, it usually proceeds to suppuration, and terminates either in a vomica, or empyema, as they are called. The former is an abscess, or collection of matter, formed within the lungs; and the latter, when the discharge is into the cavity of the thorax, between the membrane which lines the chest and the lungs. In a vomica, the matter may be discharged by expectoration; but in an empyema, it can only be discharged by an incision made between the ribs.

The existence of a vomica may be ascertained by the cough and difficulty of breathing continuing after the pain has ceased; by slight shiverings succeeded by heat; by a quick weak pulse, a general wasting of the body, and the patient being able to lie only on the side affected. In this case, here is no other prospect of a favourable issue of the lisease, but by the matter being gradually expectorated, without endangering suffocation.

In the empyema, as in the former, there is a hectic fever, lifficulty of breathing, a dry cough, and often a fulness of he skin and flesh on one side of the chest.

Both these cases tend strongly to terminate in a con- umption.

CHAP. IX.

Spitting or coughing up of Blood (Hæmoptysis).

THIS complaint is frequently the fore-runner of a con- umption of the lungs, and generally comes on between the ge of sixteen and thirty-five; though it may be produced any time of life by external violence.

CAUSES.—It is chiefly incident to those who have a nar- w chest, prominent shoulders, and a long neck, espe- lly if they be of a sanguine temperament, and formerly ble to a bleeding of the nose, or any other discharge of od. It happens often to women who labour under a ppression of the menstrual flux, and to persons who ve suffered an amputation of any considerable limb. nong those who are disposed to it, the complaint is fre- ently brought on in the beginning of summer by external t, which rarefying the blood, more than it relaxes the so- , previously contracted by the cold of winter, excites the charge. Violent exercise will likewise produce it, as l also great exertion of the lungs, in speaking, singing, rying aloud. Among other causes, a violent fit of anger often been known to give rise to it.

YMPTOMS.—The complaint begins with a sense of ght and anxiety in the breast; difficulty of breathing; a pain in different parts of the chest, and some sense of heat under the breast-bone; being often preceded by a saltish taste in the mouth. Immediately before the discharge appears, a degree of irritation is felt at the top of the throat; and upon the person's attempting to relieve this by hawking, a little florid and somewhat frothy blood is brought up. The irritation returning, more blood is brought up, with a noise in the wind-pipe, resembling that of air passing through a fluid. Sometimes, however, at the very first, the blood is discharged with coughing, or at least a very little coughing accompanies the hawking above mentioned.

At first, the blood is sometimes in very small quantity, and soon disappears; but in other cases, especially when it frequently recurs, it is in greater quantity, and often continues to appear at times for several days successively. It is sometimes profuse, but seldom in such quantity as, either by its excess or by a sudden suffocation, to prove immediately mortal.

It is not always easy to discover from what particular part the blood is discharged. When it proceeds from some part of the internal surface of the mouth, it breaks forth without any hawking or coughing; and generally, upon inspection, the source of the irruption may be seen.

When blood proceeds from the top of the throat, or adjoining cavities of the nose, it may be brought out by hawking, and sometimes by coughing. In this case, its real source may appear doubtful; but on looking attentively into the fauces, or top of the throat, the distillation of the blood from that part will easily be perceived.

When blood proceeds from the lungs, the manner in which it is discharged will commonly show whence it comes.

When vomiting accompanies a discharge of blood from the mouth, the source of the evacuation may be ascertained, by considering that blood does not so frequently proceed from the stomach as from the lungs, and that blood proceeding from the stomach commonly appears in greater quantity than from the lungs. Blood from the lungs is likewise usually of a florid colour, and mixed with a little frothy mucus or slime only; while the blood from the stomach is of a darker colour, often consisting of lumps, and mixed with the other contents of the stomach. The coughing or vomiting, as one or the other happens first to arise, may likewise sometimes point out the source of the blood.

A spitting of blood may sometimes be no more dangerous an a similar discharge from the nose: for instance, when happens to females, in consequence of a suppression of e natural discharge; when, without any marks of predis-osition, it arises from external violence; or, from whatever use arising, when it leaves behind it no cough, difficulty f breathing, or any other affection of the lungs. But even these cases danger may arise from too large a wound eing made in the vessels of the lungs, from any quantity of ood being left to stagnate in the cavities of the lungs, and rticularly from any determination being made into the essels of the lungs, which, by renewing the discharge, may oduce these effects.

CURE.—In the treatment of this complaint, the first ob-ct to be pursued, is to diminish the force with which the ood is impelled through the lungs. This end is to be swered by removing the fulness of the vessels, when such fulness exists; by diminishing the general force of the rculation; and by producing a determination of the blood the parts remote from the lungs. To accomplish these rposes, recourse must be had to blood-letting, in greater smaller quantity, and more or less frequently repeated as e symptoms shall require. The body should be at the me time kept open by some gentle laxative, such as the nitive electuary, of which a tea-spoonful may be taken o or three times a day, or by Epsom salts. These eva-ations having been premised, take of conserve of roses, r ounces; nitre powdered, half an ounce; simple syrup, much as will make them into an electuary. Of this the lk of a nutmeg may be given four, six, or eight times a day, cording to the urgency of the case; or, instead of the ctuary, ten or fifteen grains of nitre, with an equal quan-y of spermaceti, may be taken in the same manner.

When this discharge has resisted other methods of cure, sters, particularly when applied to the breast, are often ed with advantage; as has likewise the elixir of vitriol, en in the quantity of ten or fifteen drops two or three es a day.

When this complaint has appeared, the patient ought to kept quiet and easy; and the diet cooling and slender; h as panada, rice-milk, weak broths and water gruel. Bathing the feet and legs in warm water should also not neglected. Where the patient is of an irritable consti-ion, or the complaint has been brought on by some violent passion of the mind, opiates have often good effect. Ten or twelve drops of laudanum may be taken in any weak vehicle twice a day; but if not found beneficial the use of it should not be continued long.

CHAP. X.

Of a Consumption.

THE persons most subject to a spitting of blood are likewise the most liable to a consumption of the lungs, which constitutes a great part of the bills of mortality in this country.

CAUSES.—The chief causes are, moist air; a diminution or suppression of accustomed evacuations; a sedentary life; too luxurious living; obstructions in the lungs; fumes of arsenic, or other noxious matter, getting into the lungs; violent passions of the mind; sudden cold; frequent debaucheries; late watching, and drinking of strong liquors. To these may be added various other diseases, as the scrofula, pox, small-pox, scurvy, inflammation of the lungs, spitting of blood, and fevers. It has been supposed that it may also be acquired by contagion, and in many is a hereditary disease.

SYMPTOMS.—The disorder begins with a dry cough, flying pains and stitches, an oppression at the breast, especially after motion; colliquative, or great and weakening sweats; loss of appetite, and sometimes vomiting up the food soon after taking it. The expectorated matter is purulent, sometimes bloody and offensive, with white round lumps. Towards the end of the disease a looseness frequently comes on, and the legs are apt to swell. In general the complexion is florid; there is a burning heat in the palms of the hands, and the face generally flushes after eating; the fingers become small, and club-like at the ends, the nails are bent inwards and convex, and the hairs sometimes fall off.

CURE.—As soon as any symptoms of this disorder appear, if the patient lives in a large town, where the air is confined, he ought immediately to retire to the country, and take daily moderate exercise, either on horseback, or in an open carriage; but the former is preferable. Nothing of the kind is so good as a long journey, in which the advantage of a continual change of air is joined to that of the mind's ing constantly entertained with new objects; only care ust be taken to avoid catching cold from wet clothes, damp ds, or other such accidents. He ought likewise not to de sooner than two hours after dinner, and never to con- ine his journey to a late hour in the evening. A voyage sea is also of great benefit, if undertaken in time, and fore the disorder is too far advanced.

Besides proper air and exercise, an attention to diet is cessary. This ought to be of a nourishing kind, and what easy of digestion. Every thing of a heating nature is rtful. The food should be chiefly of the vegetable class; d of every sort of diet, milk is the most suitable, particu- ly that of asses: but though this be a remedy of great icacy, when employed at the beginning of a consumption, d the use of it continued for some time, yet, taken in the fling quantity that is usual, it can hardly be productive of y benefit. It ought to be taken as an article of diet, not medicine, and to the quantity of half a pint, with some ht bread, three times a day. If the milk should happen purge, as is not uncommon, it may be mixed with some d conserve of roses, or a small tea-spoonful of the powder crabs'-claws.

Butter-milk, likewise, when it agrees with the stomach, an excellent remedy in this disorder; and I believe it ould not often be found to disagree, if a person began to it only in the quantity of a gill at a time, and increased y degrees, either daily or every other day, to half a pint upwards. But butter-milk, used for this purpose, ought perly to be fresh every day, as otherwise it may become acescent, especially in the summer.

Cow's milk is of all the most easy to be procured, and, ugh inferior to that of asses or mares, in point of facility digestion, it is nevertheless preferable to the other com- n articles of diet. To render it lighter upon the stomach, may be mixed with half its quantity of barley-water. ne, for this purpose, recommend the letting it stand five six hours, and afterwards taking off the cream. But it y be sufficient to take off half the cream, and stir the re- inder in the milk, eating with it some toasted bread, ich is the form most suitable in a milk diet. The method adding rum or brandy to milk should be used with great tion: for when added beyond a certain quantity, they only coagulate the milk, but heat the body, and tend to ment the disease.

What renders milk less beneficial in consumptive cases is, that many of those for whom it is prescribed have been accustomed to the use of animal food, which never can, with safety, be laid aside all at once. It is necessary for such persons, that they continue to make one meal in the day, according to their former manner, in respect both of animal food and wine; but the food should be of the lightest kind; and the quantity of it, as well as the liquors, be gradually diminished, till they be entirely left off. Then should commence a diet entirely of milk and vegetables: if any animal food be used, it ought only to be of the lightest kind, such as calves' feet, which are extremely proper. Some, who had the resolution, have found great benefit from eating white snails, either swallowed whole or boiled in milk; a sort of food that doubtless affords much nourishment, where the taste can be reconciled to it. When there is any degree of fever, currant-jelly makes a suitable addition to diet; but tarts of unripe fruits, though recommended by some, seem not well accommodated to the disease; for at the same time that they afford very little nourishment, they are apt to bind the body too much, and tend to injure the lungs, both by supporting a constant fulness of the abdomen, and by the great exertion which they render necessary for expelling the fæces.

If variety of dishes can compensate an abstinence from animal food, the mode of diet here recommended admits of considerable latitude. Milk alone may be boiled with different substances, such as rice, barley, and sago; all which, with the addition of a little sugar, are very grateful to the palate; exclusive of light puddings, which form also an agreeable repast.

It ought however to be observed, that acid fruits, especially those of the austere kind, such as the ingredients of tarts, do not make a proper mixture in the stomach with milk, and ought rather to be taken at the distance of a few hours from that part of diet.

If, notwithstanding this plentiful resource, the patient's strength and spirits should decline, it will be necessary to give him strong broths, jellies, and the like; but neither food nor drink ought ever to be taken in large quantity at a time, as it might oppress the lungs, and produce bad effects.

At the same time that the diet is properly accommodated to the disease, every endeavour should be exerted to render the patient as chearful as possible; for as a consumption is

ften occasioned by grief or despondency, so it is always
ggravated where either of these passions prevails. Amuse-
ients therefore, chearful company, and whatever suspends
ielancholy reflections, or exhilarates the mind, are in this
ase highly-beneficial; and if prudently mixed with the
onsolations of religion, they will prove still more favourable
r preserving serenity of mind.

Repeated bleedings, in small quantities, are considered
highly advantageous in consumptive cases; and when the
nstitution apparently abounds with blood, they certainly are
, especially when the blood drawn off is extremely sizy;
hen there is much pain in the breast; and when bleeding
followed by an abatement of every symptom. It ought,
wever, to be observed, that the inflammatory appearance
the blood is not alone a sufficient reason for bleeding;
t, in determining the propriety of this evacuation, the
her circumstances of the patient should be considered;
ich as the age, strength, habit, and the state of the disease.

Dr. Simmons strongly recommends a frequent repetition
f vomits. Many physicians have supposed, that where
iere is any increased determination to the lungs, vomits do
ischief: but Dr. Simmons is persuaded, that, instead of
igmenting, they diminish this determination, and that
uch good may be expected from a prudent use of this re-
edy, than which none has a more general or powerful effect
the system. If any remedy be capable of dispersing a
bercle, he believes it to be vomits. Dr. Simmons means
t, however, that vomits will be useful in every period of
e disease, or in every patient. In general, it will be found
at the earlier in the disease emetics are had recourse to,
e more likely they will be to do good, and the less likely to
harm. The cases in which emetics may be reckoned im-
oper are commonly those in which the disease is rapid in
progress; or in that stage of it when there is great de-
lity, with profuse colliquative sweats.

As an emetic in this disease, Dr. Simmons has often em-
oyed vitriolated copper. Its operation, he observes, is
nfined to the stomach, it acts almost instantaneously, and
astringency seems to obviate the relaxation that is com-
only supposed to attend the frequent use of emetics. In
o cases he experienced its good effects, after vomits of
ecacuanha had been given without success. He advises
to be given in the morning, and in the following manner:
et the patient first swallow about half a pint of water, and

immediately afterwards the vitriol dissolved in a cupful of water. The dose of it must be adapted to the age, and other circumstances of the patient, and may be varied from two grains to ten, fifteen, or twenty. As some persons are much more easily puked than others, it will be prudent to begin with a small dose: not that any dangerous effects will be produced by a large one, for the whole of the medicine is instantly rejected; but if the nausea or sickness be violent, and of long continuance, the patient may perhaps be discouraged from repeating it. In general, the moment the emetic has reached the stomach it is thrown up again. The patient must then swallow another half pint of water, which is likewise speedily rejected: and this is commonly sufficient to remove the nausea.

Another remedy which Dr. Simmons strongly recommends in consumptive cases, both from his own observation and on the authority also of many other eminent practitioners, is myrrh. Take of myrrh, powdered, from ten to thirty grains; let it be made into a bolus, with honey, and taken two or three times a day. If there be much tendency to inflammation, it may be combined with a proportion of nitre, or cream of tartar, which has often been serviceable in cases where a consumption was beginning to make its appearance.

Besides the use of internal remedies in affections of the lungs, physicians have often prescribed the steams of resinous and balsamic substances to be conveyed into the lungs. But the simple vapour of warm water seems preferable. This, in several instances, has been found to have good effects; but when the complaint has made any considerable progress, its utility is less obvious; and when the patients have been much weakened, it has brought on profuse sweats, especially when used in bed. Considerable expectations have lately been raised from the breathing of artificial air, and living with cows, but these expectations do not appear to have been realized. Drs. Fowler, Drake, Mossman, and others, believe that fox-glove may be relied on as a specific in consumption. See Medical and Physical Journal: but this medicine can only be administered by a skilful practitioner.

Another remedy recommended by some as a specific in consumptions is an earth-bath. For this purpose a hole is made in the ground, deep enough to admit the patient up to the chin. The hole is then carefully filled up with fresh

ould, so that the earth may every where come in contact
ith the patient's body; and in this situation he is suffered
remain a considerable time, more or less, according to the
dgment of the person who directs the operation. When the
tient is taken out, he is wrapped in a linen cloth, placed
on a mattrass, and afterwards his whole body rubbed with
ointment, composed of the leaves of nightshade and
g's-lard. Some instances are related of this process hav-
g been employed abroad with success; but we have not
ard of any consumptive cases in which good effects were
idently obtained from it in this country.

In respect of drains, such as blisters, issues, and setons,
frequently recommended in consumptive cases, there is
s danger of abuse from them than from bleeding; for the
charge they excite does not weaken the patient much,
d they have so often been found to afford relief, that they
always worthy of a trial. But that these remedies may
of advantage, they ought to be applied at an early period
the disease. The discharge produced by a seton is by no
ans inconsiderable; and as in consumptive cases there
generally some inflammatory stitch, some part of the
ast that is more painful, or more affected by a deep in-
ation than the rest, a seton in the side, as near as can be
he seat of the inflammation, is highly advisable.

The Peruvian bark is perhaps the medicine most com-
nly employed of any, and often confided in as an ulti-
te resource in consumptive cases; but the general use of
far from being ratified by experience. Where there is
tendency to inflammation it is evidently hurtful. There
however, two cases in which it is found to be of ad-
tage. One of these is, the suckling of children longer
is consistent with the mother's ability. This case fre-
ntly occurs among the middling and lower classes of
ales, of constitutions naturally delicate and tender. In
a state of weakness, some slight cold brings on a cough,
ch increases gradually, till at length it produces a true
sumption of the lungs. Here the bark given early, in
lerate doses, and merely as a strengthening remedy, is
n of excellent use. In such cases, myrrh combined with
l is a valuable remedy; viz. Take myrrh, powdered, a
hm and a half; prepared kali a drachm; rub them toge-
, with a few drops of peppermint-water, till they form
ap-like lather; then add salt of steel half a drachm, and

mix them well by rubbing; to the whole add colts-foot tea half a pint. Dose, four large spoonfuls every six hours.

Wherever there is any weakening discharge, and the lungs not inflamed, the bark is likewise of great advantage; and even if they be so affected, but not beyond a certain degree, it is of great effect in preventing the progress of the consumption. Take of Peruvian bark, in powder, an ounce; old conserve of roses four ounces; syrup of oranges, or lemons, as much as is sufficient to make them into the consistence of honey. The bulk of a large nutmeg may be taken two or three times a day. The administration of this medicine, however, requires a judicious observer; and it ought neither to be given in the inflammatory stage of the disease, nor be continued in any subsequent period, if the breath becomes more tight and oppressed, the cough dry, the pulse more quick and hard, and especially if slight transitory pains or stitches about the thorax or breast are more frequently complained of. If, on the other hand, no pain, tightness, or oppression, is perceived, and there appear an evident abatement of the symptoms, a perseverance in the use of the bark will be advisable.

Various opinions are entertained concerning the efficacy of Bristol water in this disease. Dr. Fothergill informs us, that he has seen many persons recover from diseases of the lungs after drinking these waters whose cure seemed to be doubtful from any other process; and he thinks this circumstance, added to the general reputation of Bristol water in consumptive cases, affords sufficient inducement to recommend the trial of them in the early stages of such complaints. It is, however, before the approach of a confirmed consumption that patients ought to repair to Bristol, otherwise a journey thither will not only be without benefit, but may even prove detrimental.

When there are evident signs of an imposthume in the breast, and the matter can neither be spit up nor carried off by absorption, it will be necessary that the patient use every means to break it inwardly, by inhaling or drawing in the steams of warm water, or vinegar, with his breath, coughing, sneezing, bawling aloud, &c. If it burst within the lungs the matter may be discharged by the mouth; but sometimes it flows in such quantity as to suffocate the patient, especially if his strength be greatly reduced. On such an occasion, however, without suffocation, he is apt o faint; in which case volatile salts or spirits should imme- iately be held to his nose.

If the matter discharged be of a good consistence, and ie cough and breathing become easier, there is some pro- ject of a cure; and recourse should be had to the Peruvian rk, to promote that effect; persevering, at the same time, the diet formerly prescribed.

If the tumor, instead of pouring its contents into the in- rior parts of the lungs, should discharge itself into the ivity of the breast, between the pleura and the lungs, it n only be drained off by making an incision between the os: but this is an operation which can only be performed a surgeon. It is, however, not so formidable as peo- e are apt to imagine, and many have recovered by means it.

The consumption of the lungs being generally attended ith a hectic fever, it will be proper here to subjoin an ac- unt of that disorder.

Hectic Fever.

We are indebted to Dr. Heberden for the most explicit d satisfactory account of this disease. According to him, e appearance of the hectic fever is not unlike that of the nuine intermittent, from which, however, the disease is y different in its nature, and is also more dangerous. In true intermittent, the three stages of cold, heat, and eat, are far more distinctly marked, the whole fit is much ger, the period which it observes is more constant and gular, and the intermissions are more perfect, than in the ctic fever. For in the latter, even in the most perfect nission, there is usually a feverish quickness perceptible the pulse, which seldom fails to exceed the utmost limit a healthy one by at least ten strokes in a minute, being nmonly 108.

The chillness of the hectic fever is sometimes succeeded heat, and sometimes immediately by a sweat without intermediate state of heat. The heat will sometimes ne on without any remarkable chillness preceding; and chillness has been observed to go off without being fol- ed either by heat or sweat. The duration of these stages ldom the same for three fits together; and as it is not mmon for one of them to be wanting, the length of the whole fit must vary much more than in the true intermittent, but in general it is much shorter.

A patient under the hectic fever is little or nothing relieved by the coming on of the sweat; but is often as anxious and restless as during the chillness or heat. When the sweat is over, the fever will sometimes continue; and in the middle of the fever the chillness will return, which is a most certain mark of this disease.

A hectic fever will return with great exactness, like an intermittent, for two, or perhaps three fits; but Dr. Heberden does not remember ever to have known it keep the same period for four fits successively. The paroxysm or fit will now and then keep off for ten or twelve days; and at other times, especially when the patient is very ill, it will return so frequently in the same day, that the chillness of a new fit will follow immediately the sweat of the former. It is not unusual to have many threatenings of a shivering in the same day; and some degree of drowsiness is apt to attend the cessation of a fit.

Hectic patients often complain of pains like those of the rheumatism, which either affect by turns almost every part of the body, or else return constantly to the same part; which is often at a great distance from the seat of the principal disorder, and, as far as is known, without any peculiar connection with it. These pains are so violent in some patients as to require a large quantity of opium. They are most common where the hectic arises from some ulcer open to the external air, as in cancers of the face, breast, &c. Joined with this fever, and arising probably from one common cause, one may sometimes see swellings of the limbs, neck, or trunck of the body, rise up almost in an instant, as if the part was all at once grown fatter. These swellings are not painful, hard, or discoloured, and they continue for several hours.

Dr. Heberden has seen this fever attack those who seemed in tolerable health, in a sudden and violent manner, like a common inflammatory one; and like that, also, in a very short time bring them into imminent danger of their lives; after which it has begun to abate, and to afford hopes of a perfect recovery. But though the danger might be over for the present, and but little of a fever remain, yet that little has soon demonstrated that it was kept up by some great mischief within; and, proving unconquerable by any remedies, has gradually undermined the health of the patient, and never ceased except with his life. This manner of its beginning, however, is extraordinary. It much oftener dissembles its strength at first; and creeps on so slowly, that the subjects of it, though they be not perfectly well, yet for some months hardly think themselves ill; complaining only of being sooner tired with exercise than usual, of want of appetite, and of falling away. But moderate as the symptoms may seem, if the pulse be quicker than ordinary, so as to beat ninety times, or perhaps a hundred and twenty times in a minute, there is the greatest reason to be apprehensive of the event. In no disorder, perhaps, is the pulse of more use to guide our judgment than in the hectic fever; yet even here we must be upon our guard, and not trust entirely to this criterion; for one in about twenty patients, with all the worst signs of decay from some incurable cause, which irresistibly goes on to destroy his life, will show not the smallest degree of quickness, nor any other irregularity of the pulse, to the day of his death.

The Causes of hectic are various, as ulcerations of the lungs, of the liver, lumbar abscess, white swelling, scrofula, worms, giving suck too long, &c. Morton supposed the mmediate cause to be purulent matter taken into the circulation; but this notion is now abandoned.

This fever will supervene whenever there is a great colection of matter formed in any part of the body; but it more particularly attends the inflammation of a scirrhous gland, and even upon one that is slight and only just beginning—the fever growing worse in proportion as the gland becomes more inflamed or ulcered. And such is the lingerng nature of those glandular disorders, that the first of hese stages will continue for many months, and the second or some years.

If this scirrhous inflammation be external, or in some of he abdominal viscera or bowels, where the disturbance of heir functions plainly points out the seat of the disorder, o doubt can be entertained concerning the cause of the ever. But if the part affected be not obvious to the senses, nd its precise functions be not known, the hectic, which there only part of the train of another disease, may be mistaken for the primary or only one.

Lying-in women, on account of the violence sustained in elivery, generally die when affected with this fever. Women of the age of near fifty and upwards, are particularly liable to it; for upon the cessation of their natural discharge, the glands of the breasts, ovaries, or womb, too commonly begin to grow scirrhous, and proceed to be cancerous. Not only these, but the glandular parts of all the abdominal viscera, or bowels of the belly, are disposed to be affected at this period, and to become the seats of incurable disorders.

The injuries done to the stomach and liver by hard drinking are attended with similar symptoms, and terminate in the same manner.

It is observed that the slightest wound by a fine pointed instrument will, upon some occasions, bring on the greatest disturbances, and the most alarming symptoms, nay, even death itself; for not only the wounded part will swell and be painful, but by turns almost every part of the body; and very distant parts have been known to come even to suppuration. These symptoms are constantly accompanied with this irregular intermittent, which lasts as long as any of them remains.

This species of fever is never less dangerous than when it belongs to a kindly suppuration, into which all the diseased parts are melted down, and for which there is a proper outlet.

The inflammation of internal scirrhous glands, or of those in the breasts, sometimes goes off; and the fever, which depended upon it, ceases; but it much oftener happens that it proceeds to cancerous and gangrenous ulcers, and terminates only in death. Death is also, almost universally, the consequence of a hectic fever from tubercles of the lungs, which have, in general at least, been considered as glandular bodies in a scirrhous state.

Cure.—It is not to be expected that the same remedies will in every case be adapted to a fever which, arising from very different causes, is attended with such a variety of symptoms. A mixture of asafœtida and opium has in some persons seemed singularly serviceable in this fever, when brought on by a small wound; but in most other cases the principal if not the sole attention of the physician must be employed in relieving the symptoms, by tempering the heat, by preventing both costiveness and purging, by procuring sleep, and by checking the sweats. If, at the same time, he put the body into as good general health as may be, by air, exercise, and a proper course of mild diet, he can perhaps do nothing better than to leave all the rest to nature.

In some few fortunate patients, nature appears to have such resources as may afford reason for entertaining hopes of cure, even in very bad cases; for some have recovered from this fever attended with every symptom of some bowel in the abdomen being incurably diseased, after all probable methods of relief from art had been tried in vain, and after the flesh and strength were so exhausted as to leave scarce any hopes from nature. In these deplorable circumstances, there has arisen a swelling not far from the probable seat of the disorder, and yet without any discoverable communication with it. This swelling has advanced to an abscess; in consequence of which the pulse has soon returned to its natural state, as have also the appetite, flesh, and strength. What nature has performed in these rare cases, Dr. Heberden tells us, he has often endeavoured to imitate, by making issues and applying blisters near the seat of the disease; but he cannot say with the same success.

It seems at present to be the opinion of many practitioners, that the gangrenes will be stopped, and suppuration become more kindly, by the use of the Peruvian bark; and therefore this remedy is always either advised or permitted in the irregular fever joined with suppurations. But Dr. Heberden has never seen any good effect from the bark in this fever unattended with an apparent ulcer; and even in gangrenes it so often fails, that in successful cases, where it has been administered, there must be room for suspicion that the success was owing to another cause. Dr. Heberden acknowledges at the same time, that he never saw any harm from the bark, in these, or indeed in any other cases, except a slight temporary purging or sickness, where it has happened to disagree with the stomach, or where the latter has been loaded by taking the medicine too fast, especially in dry boluses wrapped in wafer-paper.

In hectic illnesses, where all other means have proved ineffectual, a journey to Bath is usually proposed by the friends, and wished for by the sick; but besides the fatigue and many inconveniences of a journey to a dying person, the Bath-waters are peculiarly hurtful in this fever, which they never fail to increase, and thereby aggravate the sufferings and hasten the death of the patient. The foxglove has been found successful in hectic arising from consumption.

Atrophy (*Tabes*) *or Nervous Consumption.*

This disease consists in a wasting of the body, without any remarkable fever, cough, or difficulty of breathing; but attended with want of appetite and bad digestion.

CAUSES.—Sometimes this disease approaches without any evident cause, but is occasioned by one or other of the following; viz. too copious evacuations, especially of the semen, in which case it is named *tabes dorsalis;* deficiency of nourishment; abuse of spirituous liquors; passions of the mind; indigestion; scrofulous obstructions of internal glands.

SYMPTOMS.—In the beginning of this disease the face is pale, and there is a loathing of all solid food; the patient also feels a languor, which chiefly prevails while in bed. The urine is often small in quantity, and high-coloured, but sometimes pale and copious.

This complaint, from whatever cause it arises, is very difficult of cure; and when it does not carry off the patient by excessive weakness, often terminates in a fatal dropsy.

CURE.—The treatment of this disease must be varied, according to the particular cause which gives rise to the complaint. When the appetite and digestion are bad, an emetic of ipecacuanha should be given to cleanse the stomach; and a dose or two of rhubarb, to produce the same effect in the bowels. Afterwards the patient ought to take stomachic medicines and the Peruvian bark. They may be combined in the following manner. Take of gentian-root, two drachms; outer rind of Seville-oranges, half an ounce; Peruvian-bark, one ounce; infuse them for two or three days in a quart of white wine, and filter through paper. Three table-spoonfuls of this to be taken twice a day, with ten drops of the tincture of muriated iron; or instead of the latter, may be given some rust of iron, made into a bolus with crumb of bread, and a tea-spoonful of water. The patient may begin with five grains of the rust, and increase the dose daily by the addition of two or three grains, to as great a quantity as the stomach can bear, or the mixture of steel and myrh. *See Appendix.*

The same medicine will be proper where the disorder proceeds from scrofulous obstructions of the glands. In this case the use of goats' whey is of great advantage. If orms be the cause, it must be treated according to the anner mentioned under that article in the diseases of iildren. If owing to a venereal taint, the method of cure ust be by mercurials, and sarsaparilla, as directed for that sorder. If the complaint arise from weakness of the erves, as in the hysterical and hypochondrical affection, eparations of iron, or the rust above mentioned, will be oper; with two of the following pills twice a day. Take asafœtida, and castor, each a drachm; common syrup, as uch as is sufficient to make them into twenty-four pills. the person be of a scorbutic habit, the scorbutic juices, ch as garden scurvy-grass, brook-lime, and water-cresses, ould be used with vegetable acids; and the Peruvian bark, ith goats' whey, in this case, is likewise highly advisable. great evacuations have given rise to the complaint, the incipal remedy is also the Peruvian bark.

In all these cases, a constant use of some gentle laxative, ch as lenitive electuary, is generally requisite; the diet ght to be light and nourishing; and the patient should ery day take moderate exercise on horseback, and use e cold bath occasionally.

CHAP. XI.

Inflammation of the Stomach (Gastritis) Heart, and Midriff.

N inflammation of the stomach may arise from drinking largely of cold liquor when a person is very hot; from id substances taken into it; from a surfeit; a stoppage of spiration; repulsion of the gout; violent passion, &c.

YMPTOMS.—This disorder is accompanied with great it, pulsation, and acute pain in the region of the stomach, ich is increased by swallowing any thing that adds to the tation of the part. There is a constant tension at the of the stomach, with anxiety, and continual retching; en likewise with a hiccup. The pulse is small, weak, frequently intermitting.

URE.—An inflammation of the stomach requires the st speedy exertion of every possible means to extinguish The remedy most to be depended upon is plentiful eding, which if, the disorder prove obstinate, it is neces- to repeat several times, notwithstanding the low state of the pulse: for this generally rises upon bleeding. A large blister should then be applied to the region of the stomach; and warm fomentations, with chamomile-flowers and linseed boiled in water, be frequently applied to the whole belly; afterwards covering it with flannel cloths, dipped in the fomentation, and wrung out, to be renewed as soon as they cool. Clysters made of the same materials, with the addition of two drachms of nitre to each, ought also to be often thrown up.

The feet and legs should likewise be frequently bathed in tepid or luke-warm water; and if the warm bath can be procured, the use of it would be advisable.

The great irratibility of the stomach in this disease precludes the possibility of relief by the common channel of medicinal application. Diluting drinks, however, may be tried; as may likewise small doses of nitre, with spermaceti or some mucilage of gum-arabic, to which may be added now and then three or four drops of the tincture of opium.

At the same time, opiates given in clysters may frequently be employed with advantage. For this purpose, take of barley-water half a pint; to which add a tea-spoonful or upwards of the tincture of opium. It is likewise only by clysters that the patient can be supported under the disease. Warm milk, given in the quantity of a gill more than the preceding clyster, may answer both as a fomentation and light nourishment.

If the disorder should not be removed by the means above mentioned, it must unavoidably proceed either to suppuration or gangrene; the former of which can scarcely afford any hope of cure, and the latter is universally fatal.

Inflammation of the Heart *.

The inflammation of the heart, and of the membrane that surrounds it, is attended with all the symptoms which accompany that of the lungs, but in a higher degree. There is a deep seated pain, weight, and anxiety, with very quick and frequent respiration; great thirst, a heat in the chest, and a palpitation of the heart. The pulse is hard and unequal, and the patient frequently faints.

The symptoms attending an inflammation of the diaphragm or midriff are, an acute pain between the short bs and the back, great restlessness and anxiety. The ypochondrium, or part below the short ribs, is drawn in to- ards the back; and the lower belly has little or no motion uring the act of respiration. The breathing is quick and ort, accompanied with convulsive catchings, a dry cough, nd hiccup.

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* See *Peripneumony*, p. 188 and 192.

CURE.—The general method of cure here is the same as other inflammatory diseases. Bleeding is necessary in great a degree as the patient can possibly bear. Strong isters must likewise be laid over the parts; and the same oling treatment be employed as in the pleurisy and inflam- ation of the lungs.

CHAP. XII.

Inflammation of the Intestines (*Enteritis*).

THIS inflammation is an extremely acute and dangerous sease, seizing any part of the intestinal canal, but chiefly e lowermost of the small guts. It is generally brought on external cold, fever, costiveness, worms, acrid or austere bstances in the bowels; eating unripe fruits, or hard indi- estible aliments; drinking stale and windy malt liquors, ur wines, cyder, &c. It may also be occasioned by tu- ors in the intestines or neighbouring parts; an introsus- ption or running in of one part of a bowel into the other, nd there confined by some stricture or adhesion: very high- asoned and stimulating food frequently gives rise to it; nd it is often likewise produced by wet feet, wet cloths, nd whatever obstructs perspiration.

SYMPTOMS.—It is accompanied with nearly the same mptoms as the inflammation of the stomach. The pain extremely acute, and occupies different parts, according the intestine affected. In general there is a distension the belly, attended with such flatulence that the patient continually belching up wind. The whole body, par- ularly about the navel, is affected with a soreness that is ggravated with the slightest touch. The vomiting is metimes so violent that the motion of the bowels is invert- l, and even the excrements discharged by the mouth. hese last symptoms are commonly called iliac passion.

There is often an obstruction of urine. The pulse, from being small, hard, and quick, frequently becomes at last irregular and intermittent. The tongue is dry, accompanied with great thirst; and the prostration of strength, as in inflammation of the stomach, is in proportion to the violence of the symptoms.

If this disease be left to itself, it sometimes ends fatally in ten or twelve hours; and almost always before the end of the third day; so that there is seldom any suppuration.

But if this effect should take place, the pain diminishes, and is converted rather into a sense of distension: irregular cold fits, with other signs of internal suppuration, ensue, and the other symptoms abate.

The abscess, when formed, may break either into the cavity of the abdomen, or into the intestinal canal. In the former case, it is generally fatal, by producing a hectic fever; in the other, the matter is discharged by stool, sometimes at first pure, and afterwards mixed with the fæces, and gradually diminishing, if the ulcer proceeds favourably: or a considerable quantity of matter continuing to be discharged, a hectic fever is in this case also excited, and the patient carried off.

Clammy sweats, a small intermitting pulse, and a total cessation of pain, are signs of approaching dissolution.

The treatment of the patient with respect to food and drink is the same as in the inflammation of the stomach: the former must be of the lightest kind used in fevers, and given in small quantities; and the latter be weak and diluting, as barley-water, &c. The patient ought likewise to be kept quiet, avoiding cold, and all violent passions of the mind.

CURE.—Large bleeding is no less necessary here than in the inflammation of the stomach, and should be repeated according to the urgency of the symptoms, until the pulse become soft. Cupping-glasses may also be applied to the belly with advantage, if the patient can bear them; as may likewise the following fomentation, afterwards applying the materials by way of a cataplasm or poultice. Take of chamomile-flowers, two handfuls; the heads of white poppies without the seeds, and the root of marshmallows, each an ounce. Boil them in a sufficient quantity of water for five or six minutes. The patient's feet and legs should likewise be frequently bathed in warm water; and softening clysters be ven. These may consist of milk and water; or barley-wa- r, with salt, and some sweet oil or fresh butter.

If the disease should not yield to the remedies above men- oned, recourse must be had to purgative medicines, begin- ng with those of the gentlest kind. For this purpose may used castor-oil, mixed with mucilage or yolk of egg with ice as much water; or Glauber's or Epsom salts, with an nce of manna, may be dissolved in a pint of warm water; id a tea-cupful of it taken every half hour till it operates. ould this not be retained, on account of the vomiting, it ll be necessary to give fifteen or twenty drops of lauda- m, in a little simple cinnamon-water, or peppermint-wa- , and afterwards repeat the dose of the solution.

But if the vomiting still continues, give the following ine draught in the act of effervescence, or while the mix- g of the ingredients yields a hissing noise. Take the salt of wormwood, or kali, a scruple; juice of nons, a large table spoonful; mint-water, an ounce; loaf gar, a drachm: mix them; or let the kali or lemon-juice be en in succession. Sometimes acids alone, such as juice of nons, or vinegar, will have the effect of staying the vomiting.

If no liquid purgative will sit on the stomach, we must xt try those of the solid kind, combined with opium, in following manner. Take of the powder of jalap, half a chm; calomel, five grains; opium, one grain; common up, a sufficient quantity, to make five pills, to be taken a dose.

When stools cannot be produced by purgatives, the m bath sometimes proves effectual. The patient ought e immersed up to the breast, and continue as long as he bear it without fainting. But it is better to repeat the nersions at the interval of some minutes than to remain the bath too long at a time. The skins of animals just ed, applied to the belly, have often been found of great ice. And when all other purgative remedies fail, the ies of tobacco, thrown up the fundament, have produced d effects; as has also quicksilver, taken by the mouth, in quantity of an ounce.

Vhen the violent constipation can be removed by nothing , it has frequently been conquered by immersing the ent's lower extremities in cold water; or while he ks on a wet pavement, to dash his legs and thighs with l water.

Such is often the obstinacy of this dreadful disease, and its termination so frequently fatal, that people cannot guard with too much caution against whatever may give rise to it. Of all the causes above enumerated, that of long continued costiveness is one of the most general; which should therefore always be prevented by the use of some gentle laxative. Caution is likewise to be strongly inculcated with respect to sour unripe fruits, and sour or very stale liquors; and, above all, lead in any form (See *Painter's Colic*). Nor is it less proper to recommend a careful attention to avoid the danger of wet clothes, and especially of wet feet; which of all the various ways of catching cold is the most pernicious to the bowels.

CHAP. XIII.

Inflammation of the Liver (Hepatitis).

AN inflammation of liver, though frequent in the East Indies, does not very often occur to the observation of practitioners in this country.

Symptoms.—This disease comes on with some degree of fever, and a pain under the short ribs of the right side increased by pressing upon the part, and frequently extended so far up as the top of the shoulder. It is also commonly attended with a cough, which is generally dry, but sometimes moist; and the patient cannot lie with ease except on the side affected. The symptoms, however, are various in this disease, according to the particular part of the liver which happens to be affected. In some, it is attended with hiccup and vomiting; in others, with a jaundice, or yellowness of the eyes, depending on the part of the liver that is the seat of the inflammation.

Causes.—This disorder, though it may be produced by the common causes of inflammation, is liable to be excited by affections of the liver itself, and those of the contiguous parts. An indurated tumor in the liver sometimes gives rise to it, but is more frequently the consequence of inflammation. Too free an use of hot spicy aliment, and of strong wines or spirituous liquors, will also produce the disease; so will likewise stones obstructing the passage of the bile; and

ny thing that suddenly cools the liver after it has been
nuch heated.

This inflammation, like that of other parts, may terminate
y resolution, suppuration, or perhaps gangrene. The first
these is often the consequence of, or is attended with eva-
iations of different kinds. A bleeding at the nose, and
metimes the bleeding piles, will carry off the disease. At
her times, the same effect is accomplished by a bilious
oseness; and many instances occur where the resolution is
tended with sweating, and a discharge of urine depositing
copious sediment. Sometimes it may be terminated by
erysipelas appearing in some external part. When the
sease ends in suppuration, the matter may be discharged by
biliary ducts; or, if the suppurated tumor does not adhere
y where closely to the neighbouring parts, it may be dis-
arged into the cavity of the abdomen or belly: but if
ring the earlier stage of the inflammation the affected part
the liver shall have formed a close adhesion to some of the
jacent parts, the discharge after suppuration may be va-
us, according to the particular situation of the abscess.
hen seated on the convex part of the liver, if the adhe-
n be to the diaphragm or midriff, the purulent matter
y penetrate into the cavity of the lungs, and may thence
discharged by coughing; but if the adhesion be to the
itonæum, or membrane lining the abdomen, the matter
y work its way outwardly, or a passage be made for it by
ision. When, on the other hand, the abscess is seated in
concave part of the liver, the matter may, in consequence
adhesion, be discharged into the stomach or intestines, and
the latter, either directly, or by the intervention of the bi-
y ducts.

URE.—The treatment, in respect of food and drink,
st be the same as in other inflammations. The
nptoms, at the beginning of this disease, being generally
alarming, it is often too late before the remedies are
ployed; but as soon as the existence of this disorder is
ertained, recourse should be immediately had to bleed-
; which it may likewise be necessary to repeat, though
pulse should not feel hard. After bleeding, the side
uld be fomented as directed in the preceding inflamma-
s; a softening clyster should be given, and the feet and
be bathed in warm water. A blister ought then to be
lied over the part; giving afterwards the following pur-
ve. Take of the leaves of senna, two drachms; tama-

rinds, an ounce; water, half a pint: boil them a few minutes, and in the strained liquor dissolve half an ounce of manna. Four table-spoonfuls to be given every half hour till it begins to operate.

In this disease great benefit is sometimes found from the use of diuretic medicines, or those which increase the discharge of urine. With this intention a scruple of purified nitre, or half a drachm, if the stomach will bear it, may be taken in a cup of the patient's drink every three or four hours: Or a tea-spoonful of the sweet spirit of nitre may be used for the same purpose.

When there appears any tendency to sweat, it ought to be encouraged by drinking plentifully of warm diluting liquors, such as barley-water.

Sometimes the disease is carried off by a discharge through the intestines. Should therefore such a crisis seem to take place, by any loose stools, they must not be checked, unless the evacuation be so considerable as to weaken the patient: because of all the outlets from the body, this is the channel most convenient for affording relief to the complaint.

When the disease proceeds to suppuration, and matter is actually formed in the liver, we must watch the motion of nature, and have recourse to such remedies as tend to encourage the discharge by which she endeavours to operate, giving in the mean time the Peruvian bark, to guard the constitution against the efforts which might arise from an absorption of the purulent matter. It may be given in powder in the quantity of half a drachm, four or five times a day.

If the matter be not carried off through some of the outlets of the body, but the abscess breaks, the only favourable event is when the discharge is made outwardly, and this ought to be promoted as much as possible by fomentations and poultices. The abscess may then be opened by an incision, but still the patient's life can only be preserved conditionally; that is, if the liver adheres to the peritonæum in such a manner as to prevent the matter from falling into the cavity of the abdomen.

If notwithstanding every effort to cure the disease by resolution, it should terminate in a scirrhus or hard tumor, the patient may survive many years, and even live to a great age; but he must be attentive to his diet. He t to use more of vegetable than animal food; and avoid high-seasoned meats and strong liquors. He should gentle exercise; and will find benefit from a moderate of vegetable acids.

sides the disease above described, there is also a iic kind of inflammation of the liver, depending more n accumulation and effusion in this organ, than on an ased action of its small vessels. In this species of the der the patient complains rather of a sense of weight of pain, and the fever is neither acute nor constant, ften returns in paroxysms or fits, somewhat resem- the attacks of an intermittent. This disease is very in its progress, frequently continuing for many ns, and at last terminating in a very considerable ration. In most cases this disease may be discovered careful examination of the region of the liver exter- ; upon which it will be generally found that this has acquired a considerable enlargement. In this ler, the best remedies are the neutral salts, given in quantities, so as gently to increase the discharge by . Half a drachm of sal polychrest, or a drachm of ber's salt, dissolved in a gill of warm water, may be every morning. But the remedy most to be de- ed upon is a grain of calomel, morning and evening, mouth becomes a little sore, and then the diuretic n suitable doses. Or tincture of squills.

CHAP. XIV.

Inflammation of the Spleen, Kidneys, Bladder, and other Parts.

inflammation of the spleen is a disorder which rarely ; but in consequence of some fevers of the remit- r intermittent kind, this bowel is frequently loaded, mains a long time in a hardened and indolent state, d by the general causes of inflammatory diseases, tacking chiefly persons of a full and sanguine habit dy.

IPTOMS.—This disease comes on with a remarkable ng, succeeded by great heat and thirst. A dull pain is felt under the short ribs of the left side, accompanied f the most part with a protuberance externally. The fe generally increases every fourth day; the feet and kn grow red; the nose and ears sometimes pale; and there a difficulty of breathing.

The inflammation of the spleen is accompanied wi less danger than that of the liver; and a vomiting of bla matter, which in other acute diseases is reckoned a fal symptom, is said to prove sometimes critical and salutary i this disease. The inflammation is likewise sometimes carried off by the hæmorrhoids; but it frequently termina by a scirrhus.

Cure.—The treatment is the same in this case as the inflammation of the liver. But without much previ complaint, an abscess is sometimes formed in this bowe, which, bursting suddenly, pours its contents into the bel, and in a few days terminates in death.

The spleen, like the liver, is also subject to a chro inflammation, which often happens after agues, and called the *ague-cake*; though that name is also frequent given to a scirrhous tumor of the liver succeeding intermittents.

Inflammation of the Kidneys.

Exclusive of the usual symptoms of inflammation, th disorder is attended with frequent vomiting, and often wi costiveness and colic pains. The urine is most commo of a deep red colour, and is voided frequently, and in small quantity at a time. In more violent cases, this di charge is commonly colourless. The pain of this infla mation is not increased by the motion of the trunk of body so much as a pain of the rheumatic kind affecting t same region. It may also frequently be distinguished its shooting along the course of the ureter, and it is of attended with a drawing up of the testicle, and a nu ness of the limb on the side affected; though indeed th symptoms most commonly attend the inflammation aris from a stone in the kidney or ureter.

Causes.—This disorder may be occasioned by any th of an acrid nature stimulating the kidneys; heating di tics; fulness of blood; suppressed evacuations; exte contusions; calculous concretions; strains of the mus the back; violent or long continued riding on horse- k, or shaking in a carriage.

URE.—The remedies here are the same as in other mmations. Bleeding must be employed, and repeated ording to the exigence of the symptoms; but though essary in robust habits, it must be cautiously used in ty constitutions, or such as are enfeebled. Blisters here not advisable, on account of the irritation which might xcited by the cantharides; but fomentations and the of the warm bath are of great advantage. A gentle tive, such as the following, should then be given. e of senna leaves, two drachms; boiling water, half a Infuse for half an hour; and in the strained liquor olve two drachms of tartarised kali, or three drachms Glauber's salts, and half an ounce of manna. Four spoonfuls to be taken every half hour. Let the fol- ng clyster likewise be immediately injected. Take of and water, a gill and a half; salt and sugar, each two spoonfuls; linseed oil, three table spoonfuls; mix them. he following emulsion, taken warm, should be plen- y used as common drink. Take of sweet almonds, ched, one ounce and a half; double refined sugar, an ounce; water, two pints. Beat the almonds with ugar; then rubbing them well together, add the water, egrees, and strain the liquor. An infusion of linseed, arsh-mallow-root, sweetened with honey, may likewise unk occasionally.

case of violent pain, fifteen drops of laudanum may be every six or eight hours; or a tea-spoonful of it may ixed with a clyster.

the complaint should terminate in suppuration, which be known by the abatement of the pain, a remaining of weight in the loins, with frequent shiverings suc- d by heat, and whitish turbid urine, give the following ary in the quantity of a small nutmeg three times a Take of the powder of rhubarb, one drachm and a nitre, one drachm; double refined sugar, three ms; Strasburgh turpentine, half an ounce; mix them n electuary. To complete the cure, the Peruvian ought to be given, in moderate doses, two or times a day.

is complaint has frequently been mistaken for an in- atory lumbago, or pain of the loins; but from this it may be distinguished by the following circumstances, viz. from the patient's being able to raise himself into an erect posture; being bent forwards without any remarkable pain, which in the lumbago is very severe; from the pain following the course of the ureters; from the difficulty of making water, and the urine being more changed from the natural appearance, which is not the case in the lumbago.

Inflammation of the Bladder.

This disorder begins with a violent pain in the region of the bladder, deep-seated, and sometimes attended with an external redness in that part. If the neck of the bladder be affected, there is a retention of urine, with a constant desire to discharge it. If the bottom be the part inflamed, there is a continual dribbling, with great efforts to make water more plentifully. These symptoms are accompanied with frequent attempts to expel the fæces, to which the patient is excited by perpetual irritation. The pulse is frequent and hard, accompanied with sickness, vomiting, and sometimes delirium. There is great anxiety and restlessness, and the extremities become cold.

Cure.—The usual treatment of inflammations must in this case be prosecuted with vigour; such as bleeding, fomentations, and the warm bath. Clysters, by pressing upon the bladder, when a part near the great gut happens to be inflamed, may prove hurtful, and should therefore only be used when there are hardened fæces, and then likewise in smaller quantities than usual; but gentle laxatives, such as senna, glauber's-salts, manna, and the like, ought never to be omitted. Ten or fifteen grains of nitre ought likewise to be frequently given in the patient's drink. This should consist of barley-water, or an infusion of linseed; but if the urine be retained from a stricture in the neck of the bladder, the drink should be taken only in small quantities. In which case, likewise, it is necessary to evacuate the urine by means of a catheter; but this must be done with great caution.

If, notwithstanding, the cause of these remedies, and after sufficient evacuation, a spasmodic contraction and pain should continue, opiates may sometimes be useful.

In cases of mucous discharge from the bladder, give
ie following pills. Take of soda, and Venetian soap,
ich one drachm; oil of nutmeg, six drops; common
rup, enough to make into twenty-four pills. Four to
taken twice a day, with some of the compound decoc-
on of barley.

If the bladder suppurate, the matter must be discharged
soon as possible, and the remedies already recommended
ulcers of the kidneys are to be employed.

Inflammation of the Womb.

This disorder is accompanied with pain, heat, pulsation,
l tumor of the part; a continual painful urging to go
stool; and a difficulty of making water.

CAUSES.—All the general causes of inflammation may
e rise to this complaint, but it is chiefly owing to the
lden change produced in the habit after delivery, and
refore most frequent with women in child-bed. It is,
vever, not to be confounded with the disease called the
erperal, or child-bed fever.

CURE.—The means to be employed for curing this in-
nmation is the same as for that in other parts: viz.
bleeding, gentle softening clysters, and fomentations;
r the latter of which, a poultice of bread and milk, with
should be applied to the pudenda. In the mean time,
patient must use a light diet, and warm diluting
ors; taking every two or three hours ten or fifteen grains
nitre, dissolved in some of her drink. If the pain con-
es, recourse may be had to opiates, both with safety
advantage.

Inflammation of the Mesentery.

his, like other inflammations, is accompanied with a
r, which however is variable, being sometimes slight,
etimes remittent, and at others violent. There is a
or and deep-seated pain about the region of the navel;
body is bound, there is a bitter taste in the mouth;
in the more advanced state of the disease, a thin,
fœtid, or white matter, passes off by the stool.

URE.—In this complaint, it is found that bleeding by
t or ten leeches, applied round the navel, has greater

effect than from a vein. Softening clysters, repeatedly given, are of great advantage. Fomentations must also be diligently employed; applying after them some volatile liniment, with opium in the following manner: Take of soap liniment, or the liniment of ammonia, one ounce; tincture of opium, one drachm. Mix. Or instead of this may be used Bate's anodyne balsam. (See *Appendix*).

Inflammation of the Omentum, or Cawl.

This complaint is distinguished by an acute darting pain, through the superior and middle part of the lower belly, under the muscles and membrane of the abdomen. There is a perceptible swelling and tension, increased upon pressure, and accompanied with an inflammatory fever. The bleeding with leeches, and other applications, are here to be employed in the same way as in the inflammation of the mesentery.

Inflammation of the Peritonæum.

This is discoverable by a fever, and pain of the lower belly, which is increased by the body being in an erect posture. The abdomen is extremely painful on strong pressure, and is often greatly distended. The treatment of this disorder differs in nothing from that of the two last-mentioned complaints.

It may be proper here to observe, that, in all internal inflammations, it is necessary in every case to attempt to procure resolution as quickly as possible; because if the disorder proceed to suppuration, and matter be formed in a place whence it is not discharged externally by nature, nor can be by art, the disease must terminate fatally.

CHAP. XV.

Of painful Diseases, not attended by Fever.

Head-ach, and Tooth-ach.

IN the whole class of human diseases there is no complaint more general than that of the head-ach; nor any that is in most cases more transitory, and, in others, more obstinate. It is distinguished into different kinds, according

the degree of the malady, or the part which it occupies.
hese are, *cephalalgia,* when the pain is not very consi-
rable; *cephalæa,* when it exists in a higher degree, and
tends over the whole head; and *hemicrania,* in which one
le only is affected. Besides these there is a fourth, called
e *clavus hystericus,* where the pain is fixed within a very
all compass, in one side of the fore-head.

The complaint is farther distinguished into internal and
ternal; primary and symptomatic; the last of which,
z. the symptomatic, is by far the most general.

A head-ach may be occasioned by whatever distends
e vessels of that part, or obstructs the circulation through
em. It consequently may arise from a stoppage of
rspiration; a suppression of accustomed evacuations;
h as the piles; bleeding, or running, at the nose; sweat-
of the feet; and by costiveness, or other causes which,
impeding the motion of the blood in the lower extre-
ties, produce a greater fulness in the head.

Besides the quantity of the fluids, an acrid state of them
y give rise to the disorder; and hence it is frequently a
sequence of the secondary venereal disease. It likewise
en owes its origin to nervous irritation; and above all to
igestion, or a foulness of the stomach.

CURE.—When the complaint proceeds from a fullness
blood, which may be concluded from a sanguine habit
body, a full pulse, and perhaps a florid countenance,
remedies are bleeding, cupping on the back of the
k or between the shoulders, and gentle purgatives.

When the pain is occasioned by a retrocession of the
t, or by gouty rheumatic humours, blisters should be
lied to the back and legs, and the feet bathed in warm
er; which indeed is serviceable in most kinds of head-
To open the body, a spoonful, or two, of aloetic
e should also be taken at bed-time.

head-ach in phlegmatic constitutions will be relieved
he occasional use of the purgative just now mentioned,
by blisters, if the disorder be severe or obstinate. The
of the Peruvian bark, with neutral salts or kali, will also
dvisable, and may be given in the following manner.
e of the powder of Peruvian bark, one ounce; sal ammo-
or kali, one drachm: mix them, and divide the powder
sixteen doses; one of which to be taken twice a day.
ons of such a habit will likewise find benefit from

taking, twice a day, twenty drops of antimonial wine, in a dish of Valerian tea.

If a foul stomach be the cause of the complaint, an emetic ought to be taken: after which it would be proper to take some stomachic bitters, such as gentian root, the root of the sweet-scented flag, outer rind of Seville orange, &c. infused in white wine, and taken in the quantity of two or three table-spoonfuls twice a day.

If the head-ach proceeds from costiveness, it must be cured by some purgative; and the return of it, if habitual, obviated, by the occasional use of castor oil, lenitive electuary, or any other gentle laxative.

When the disorder is occasioned by a weakness of the nerves, after cleansing the stomach by a gentle vomit, and the bowels by some mild laxative, bitters and the bark, with steel, as above recommended, should be taken, and joined with chalybeate waters; or ten drops of the tincture of muriated iron may be taken twice a day, with a dose of the bitter infusion. In this case also, the bark and the root of wild valerian are of great advantage. They may be taken either in the form of infusion, tincture, powder, or an electuary, as is most agreeable to the patient. In such constitutions, daily riding on horseback and the use of a light diet are also advisable.

When a vitiated state of the humours is the cause of the head-ach, as in scorbutic constitutions, and those who have been deeply infected with the venereal disease, the decoction of sarsaparilla, with raisins, or that of the woods, will prove of great advantage, and ought to be plentifully used; with which, in the case of a venereal taint, mercurials should be joined.

When the complaint succeeds an intermittent fever, or is observed to be periodical, the bark and valerian are highly serviceable.

In those who wear wigs, letting the hair grow, and combing it frequently, has often been attended with benefit in a habitual head-ach. Washing the head with vinegar has also good effect; as has likewise a little æther, dropt into the palm of the hand, and applied to the forehead; or a tea-spoonful of æther, in valerian tea, every three hours, for three times. Sometimes a bit of horse-radish, sliced and laid upon the temples, will remove the complaint in a very little time. In obstinate cases, a blister to the whole ad is advisable; and, in gross constitutions, much benefit experienced from the use of issues, or setons.

When the head-ach is extremely violent, so as to pro- ce continual watching and delirium, a recourse to opiates ay become necessary; but before they are employed, the wels ought to be cleared by some gentle purgative. A t of linen, dipped in Bate's anodyne balsam*, may then applied to the part; and it may even be advisable that e patient take twenty drops of laudanum in a cup of va- ian tea, two or three times a day. But when recourse is d to this important remedy, care must be taken to obviate stiveness by means of some laxative.

Those who are subject to a head-ach ought to guard par- ularly against wet feet. They never should go to bed th their feet cold, and should always lie with the head gh. If the pain be accompanied with heat and pulsation the head, the diet ought to be slender, and all strong uors avoided.

Of the Tooth-Ach.

The tooth-ach may proceed from any of the causes of lammation, or from pregnancy, but is generally occa- ned by catching cold about the head, or by cold and wet t, which repel the blood towards the head. It appears en to be owing chiefly to an acrimony in the fluids, either a rheumatic or scorbutic kind. The foundation of it is en laid in the mismanagement of the teeth; in not keep- them clean, by daily washing the mouth; in hurting m by an immoderate use of sugar, or acids, cracking ts, cherry-stones, &c.; and in picking them with pins, such like instruments, which injure both the teeth and ms.

Prevention.—It might perhaps be thought too severe to ommend the immediate extraction of a tooth upon the first ack of the complaint, though this be the only certain ans of preventing its return. Such an expedient, indeed, uld be more advisable where the tooth-ach was evidently ing to an external cause, which it was possible to obviate in future; for, in constitutions apparently disposed to the complaint, the extraction of the injured tooth could afford no security against the invasion of the others, but that of preserving the neighbouring teeth from the effects of contagion. When there is reason, however, to think that a tooth will prove a martyr to the disorder, it would certainly be proper to extract it, before it has become so carious as to render the operation ineffectual.

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* See *Appendix*.

We are doubtless far too inattentive with respect to the preservation of the teeth, considering of what importance they are in the chewing of food, which, without their previous exertion, would render it difficult for all the concoctive powers of the stomach to digest the aliment sufficiently. We do not often enough wash them; we injure them, as has been already observed, by too free an use of sugar, or acids, which gradually corrodes their enamel; we wantonly contribute to destroy them by cracking nuts, or otherwise exposing them to violence; and instead of picking them with care, we employ a pick-tooth rather as a weapon of hostility than defence to the teeth. They ought always to be picked before a looking-glass, to avoid wounding the gums, the slightest separation of which from a tooth paves the way to its future destruction.

Cure.—In attempting to cure the tooth-ach, the first object is to divert the flux of humours from the part affected. This is best done by purgatives, and bathing the feet in warm water. Perspiration ought at the same time to be promoted, by drinking weak wine-whey, with which, if there be much heat and tumor about the part, ten or fifteen grains of nitre may be taken two or three times a day.

Some advise the application of leeches to the gums; but this is rather an indelicate, and not very safe practice. The best applications are blisters behind the ears, at least on the side affected, if only one; and they ought to be large enough to come a good way under the cheek. A poultice of linseed should likewise be applied to the cheek, and renewed when it cools, till either the complaint entirely ceases, or matter is formed in the gum, which ought then to be scarified, and washed with a little warm water and salt.

A derivation may be made from the part affected, by gently chewing in the mouth a bit of ginger, or the pellitory of Spain. If the tooth be rotten or hollow, so that the ervous chord, which is the seat of the pain, can be reached, is part may be burnt with a hot wire introduced in a pipe, nd the cavity be filled up with lead, wax, or mastich. ouching that part of the ear called the antihelix, which is e interior prominent part, with a hot iron, sometimes also moves the tooth-ach, but, to have the desired effect, it ust be done by surprise.

If the tooth be hollow, a very good application for easing e pain is a mixture made of equal parts of the tincture opium and myrrh; a few drops of which may be intro- uced into the tooth upon a little cotton. Or the smoke of n-bane seeds, &c.

Some women, during the first three or four months of egnancy, are subject to the tooth-ach, which is generally lieved by small bleedings. Hysteric women also are liable it; but in these it is merely a nervous affection, and to cured by such medicines as will afterwards be mentioned treating of that disorder.

CHAP. XVI.

Pain of the Stomach.

THIS pain, commonly termed the heart-burn, is ac- mpanied with an anxiety, a heat more or less violent, ntness, an inclination to vomit, or a plentiful discharge water from the mouth. It may proceed from various uses, such as indigestion; wind; sharp humours, whether id, bilious, or rancid; acrid and pungent food, as spices, c.; from worms; a stoppage of customary evacuations; uty and rheumatic humours; surfeits; from the natural ucus or viscid fluid of the stomach being abraded, particu- ly in the upper orifice, &c.

CURE.—When a pain of the stomach proceeds from a ppage of customary evacuations, in a person of a sanguine d full habit, recourse should be had to bleeding; and it ll also be proper to keep the body open by mild purga- es, such as rhubarb, senna, or crystals of tartar.

In any other pain of the stomach, bleeding is not neces- y, but particular attention must be paid to the offending cause. If it proceeds from indigestion, or any acrid matter in the stomach, an emetic should be given, and afterwards such medicines as are suited to the specific kind of acrimony. Thus, if it arise from acidities, Take of the powder of crabs' claws, and sugar, each two drachms; oil of cinnamon, two drops: mix them, and take a tea-spoonful of it two or three times a day: or, in place of it, the same quantity of calcined magnesia may be used. Lozenges of chalk may also answer the same purpose. If attended with costiveness, eight grains of rhubarb may be taken with the magnesia, or other powder, twice a day. When acidities are the cause, fixed and volatile alkaline salts, such as the salt of wormwood, or of tartar, and the salt of hartshorn, taken in a small cup of water, will also give relief. It is impossible to say what precise quantity may be necessary to neutralize the acid, but, at a moderate calculation, a scruple of either of the two first, or ten grains of the last, may prove sufficient for the purpose; or a pint of lime-water daily. When the nature of the acrimony is not certainly ascertained, a little gum-arabic, dissolved in water, will be found a more general remedy.

If a sharpness and too great quantity of bile be the cause, an emetic is necessary, as in every foulness of the stomach. In this case, drinking a pint, or upwards, of hot water every morning; or Bath water is of great advantage, as a preventive remedy; keeping the body occasionally open by small doses of rhubarb, castor-oil, or other mild laxative.

If too free an use of spices, or other hot substances, be the cause, a draught of cold water will prove serviceable. If it proceed from wind, the same remedy is often preferable to those of a cordial nature. When it arises from worms, the means formerly mentioned under that article must be employed. When from gouty or rheumatic humours, the feet should be bathed in warm water, and warm wine-whey be drunk to promote perspiration. If it arises from a surfeit, a glass of peppermint-water may be taken.

If the pains arise from any excoriation or ulceration, the complaint will be constant, but greatly increased upon swallowing any thing hot or acrid. In this case, soft mucilaginous medicines, as gum-arabic, linseed-tea, &c. are the best remedies; but nothing will prove more useful than a milk diet.

When women contract this complaint after the natural

oppage of their monthly evacuations, they will find great
enefit from opening an issue in the arm or leg; which may
ewise preserve them from other ailments.

When the pain is attended with a discharge of clear
mph or water, sometimes insipid, sometimes acrid, it is
lled the *water-brash*. In this case, the best remedies are
e bark and stomachic bitters.

Where a pain of the stomach is habitual, there is gene-
lly a relaxation of that organ, which ought to be strength-
ed likewise by these remedies, and the elixir of vitriol;
teen or twenty drops of which may be taken in a dish of
momile-tea, or any other vehicle, twice a day. If attend-
with costiveness, the occasional use of aloetic-pills, or
me other laxative, will be proper: or both ends may be
swered by a combination of equal parts of Peruvian bark
d rhubarb in wine or brandy, and taken in such quantity
to keep the body gently open.

For those who are subject to this complaint, the best diet
light animal food, with little bread; and the drink should
toast and water, or occasionally brandy and water.
aily riding on horseback is highly serviceable, as is like-
se sailing.

Pain in the Stomach and Bowels from Poison.

The effects of poison being generally sudden and violent,
s extremely proper that every person should be acquaint-
with the means of counteracting them. The knowledge
cessary for this purpose is not difficult to be acquired,
d may likewise be easily put in practice.

Poisons may be distinguished into three kinds, according
they belong to the mineral, vegetable, or animal kingdom.
e first of these are commonly of an acrid or corrosive
ture, such as arsenic, &c. The second have generally a
rcotic or stupefactive quality, as aconite, hemlock, &c.
d the last is the infection which poisonous animals com-
inicate by the bite or sting, which are only applied ex-
nally.

Upon swallowing arsenic, a burning heat and violent
cking pain are felt in the stomach and bowels, accompa-
d with extreme thirst, and an inclination to vomit. If
ief be not soon obtained, the patient is seized with great
xiety, hiccuping, faintings, and coldness of the extremi-
s. These are followed by the discharge of black matter

from the stomach, and fœtid stools, which indicate a mortification of the bowels, and approaching death. A mortification of the genitals is said to be peculiar to the poison of arsenic.

For obviating the effects of this poison, the most active exertion is necessary. The person ought immediately to drink large quantities of milk and honey mixed, of warm water and oil, or, in defect of oil, melted fresh butter. Fat broths, likewise, if they can be procured in time, will answer the purpose. These, if drunk plentifully, will be apt to excite vomiting; but to produce that effect as soon as possible, it will be proper to add to them half a drachm or two scruples of ipecacuanha, or half a drachm of white vitriol, and a tea-spoonful of volatile spirits: clysters of the same kind should also be repeatedly given. In a word, the whole tract of the alimentary canal should be filled with softening emollient liquids, both to dilute and sheathe the poison. When by these means a discharge has been obtained both ways, it will be proper that the person continue to take plentifully of a decoction of barley, with some gum-arabic, and spermaceti, or the drinks before mentioned; keeping the body open for several days by the castor oil mixture, an infusion of senna, Glauber's salts, or some other purgative, until there is reason to think that the poison is entirely expelled. Even after which it will be advisable to persevere some days longer in the use of spermaceti, and the decoction of barley, with gum-arabic, to sheathe and besmeare any parts of the intestines which may have been abraded by the acrimony of the poison.

If the person be of a full habit of body, or the pulse be strong and full, it will be advisable, besides the above process, to take away some blood by the lancet.

The saline preparations of mercury, lead, copper, and antimony, that is, the solutions of these metals in different acids, are, in very small doses, useful and powerful medicines; but, given in too great quantity, are active and virulent poisons. When these have been taken, it has been recommended to adopt the process above described in respect of the poison of arsenic; but no medicine will have so immediate an effect as a solution of any alkali, which, uniting with the acid, decomposes the salt, and precipitates the metal in the form of a calx, nearly or wholly inactive.

When, therefore, any of these substances has been swalowed, dissolve about one ounce of salt of tartar, salt of vormwood, or common pearl-ashes, in a half gallon of warm vater, and let the person drink plentifully of it, remember- ng that his life is at stake. After this has been done, the nethod before mentioned may be used with great advan- ige.

Among the VEGETABLE POISONS, the plants which hiefly produce unhappy effects are some kinds of mush- ooms; hemlock, gathered for parsley, and eaten in sallads; ic roots of the hemlock-dropwort, eaten instead of carrots; id the berries of the deadly nightshade, which children eat mistake for wild cherries; the aconite and henbane and ium. All the poisons of this class, as has been already bserved, seem to prove mortal rather from a narcotic or upifying, than an acrimonious and stimulating quality. The nief symptoms produced by them are a staring wildness in e eyes, confusion of sight, palpitations, giddiness, loss of emory and voice, stupor or fury, convulsions, and retchings vomit.

When any of these poisons has been unfortunately re- ived into the stomach, the patient should immediately ke a solution of vitriolated zinc, or white vitriol, in warm negar and water, and repeat it till it causes him to vomit entifully, assisted by a large quantity of oil, butter, and her softening fluids, as above recommended. If he be an ult, or grown up person, he should take fifteen grains, or scruple of the medicine, at a time.

After the operation of the vomit, and the evacuation of e intestinal canal, by emollient and oily clysters, the pa- nt should continue to take large quantities of water, or ey, sweetened with honey or sugar, and acidulated with egar, which is regarded as an efficacious remedy against is sort of poisons.

The valuable drug opium, when taken in too large quan- y, produces effects equally pernicious with those of the getable poisons above mentioned. The method of cure, this case, is the same as already described, except that ere may be a greater necessity for immediate bleeding; the ect of this poison being to produce symptoms similar to se of the sanguineous apoplexy. Blisters may be applied tween the shoulders, and to the ancles, as well as vinegar the nostrils; and dilute vitriolic acid, or cream of tartar, non juice, or any convenient palatable acids, may be added plentifully to the patient's drink. The common saline mixture is here particularly recommended, and that to be given freely.

To afford opportunity for these remedies, much depends upon keeping the patient from sleeping until the effects of opium be over. After the poison is discharged, two or three gentle purges should be given at stated intervals.

Of the Bites of Poisonous Animals.

Of the original cause of madness in animals, and the specific nature of the poison which they communicate, we as yet know nothing with certainty. Nor has experience proved more successful with respect to the uniform accomplishment of a cure in this species of infection. The credulity which always attends ignorance, and the imposture that preys upon credulity, have both contributed to retard the advancement of science wherever investigation is difficult. In the mean time, it is a matter of the greatest importance to ascertain with precision the symptoms which accompany the madness of animals, that we may be better enabled to guard against an accident productive of the most deplorable effects.

The madness of a dog may be known by his dull heavy look. He seldom or never barks, and shows an inclination to solitude. He refuses all food, hangs down his ears and tail, and often lies down, as if going to sleep. He appears angry and snarles at strangers, but fawns upon his owner.—The symptoms hitherto enumerated appear in the first stage of madness. He next begins to breathe quick, shoots out his tongue, slavers and froths at the mouth, seems as if half asleep, flies suddenly at by-standers, and runs forward in a curve line. At length he knows not his owner; his eyes become thick and dim, and water runs from them. His tongue assumes a red colour, he grows weak and faint, often falls down, then rises, and attempts to fly at something. He now becomes furious; and the nearer he is advanced to this state, the bite is more dangerous.

Innumerable remedies have been recommended for the cure of canine madness, and some of them particularly celebrated; but experience too surely evinces, that almost all of them are frivolous, and the remainder inadequate to the effect. The only certain means of cure is to cut out the bitten part immediately. Cupping-glasses should then be applied. The part should be cauterized, or washed daily

ith salt water: or, applying to it the stronger ointment of
uicksilver, it ought to be kept open with escharotics or
ustics. If the patient be of a full habit, it will be proper
bleed. Vomit, with vitriolated quicksilver, in the quan-
y of four grains. Give at night half a drachm of cin-
bar, with sixteen grains of musk; to which may be added,
e grains of camphor, and one of opium; giving a purge
e next morning. The patient should bathe in the sea, or
ld bath, every morning, for a week, and at night take
me of Mindererus's spirit, or other medicine, to promote
rspiration. Both the bathing and sudorific should be re-
ated three or four times, at the next full and change of
e moon. The ointment of quicksilver, applied externally,
d vitriolated quicksilver, taken inwardly, so as to raise a
ivation for several weeks, are said to prove of great effi-
y. In Germany, the root of deadly night-shade has
en given, from three to six grains at a dose, and is re-
rted to have proved infallible in the first stages of the
lady.

For curing the bite of a viper, we are informed that the
er-catchers do nothing more than rub into the wound
ne of the grease of this animal; though the method of
king the wound, as practised by the ancient Psylli and
rsi, would appear to be preferable; rubbing the part,
er suction, with some warm oil of olives. A poultice of
ad and milk, softened with the same, should likewise be
plied to the wound; and the patient ought to drink freely
vinegar-whey, or water-gruel, with vinegar in it, to
mote perspiration: for vinegar is found highly beneficial
ases of poison, and ought to be plentifully used.

Another kind of poison is that which is communicated by
stings of insects; such as the bee, the wasp, the hor-
, &c. but this is seldom attended with danger, when a
son is not stung by a number of them at the same time,
s to excite a considerable inflammation. To remove
effect, or rather to prevent it, some apply honey, and
e bruised parsley, to the part, while others, for the same
pose, recommend a mixture of vinegar and treacle; but
inting the part with warm oil of olives is commonly
d successful. Should the stings, however, be very nu-
ous, and the consequent inflammation prove alarming.
only poultices of bread and milk, with plenty of oil,
ht to be applied to the part, but the patient be bled; he
ld also take cooling medicines, such as nitre, in the

quantity of ten or fifteen grains, every three or four hours, and drink plentifully of barley-water, or other diluting liquors.

CHAP. XVII.

Of the Venereal Disease.

THIS disorder may very properly be ranked after the poisons, not only as being of a virulent nature, but communicating infection by contact. It is generally distinguished into two kinds, or at least two different modifications, viz. The *primary* or *local symptoms*, confined to the organs of generation, and the adjacent parts, in the forms of virulent gonorrhœa, chancre, phymosis, &c.; and the *secondary* or *constitutional disease*. The first is often called a clap, or lues; the second, syphilis, or the confirmed pox.

The virulent gonorrhœa consists of a running or discharge of matter from the parts of generation in either sex. It sometimes commences in two or three days after the infection has been received, and at others not before a month or upwards; but it commonly makes its appearance in eight or ten days. The usual forerunner of the complaint is an itching at the orifice of the urethra, sometimes extending over the whole glans, which is succeeded by a discharge from the urethra, at first whitish, but afterwards changing to yellow or green. A slight degree of redness and inflammation begin to appear about the lips of the urethra; and a pain and smarting are frequently felt in making water.

There is commonly a fulness of the yard, particularly of the glans; and frequently a soreness, either in part, or through the whole of the urethra, accompanied with pain in erection. When the inflammation, or irritability, of the urethra is great, the penis is incurvated downwards in erection, attended with considerable pain, and sometimes hæmorrhage. These symptoms are sometimes accompanied with swellings of the testicles, or sympathetic tumefactions of the neighbouring glands.

Sometimes the infection is received by the virulent matter remaining in contact with the prepuce, or glans, in which it produces a lingering ulcer, with a hardened base. This is termed a chancre, and frequently lays the foundation of a confirmed disease. When the matter produced by this ulcer is absorbed, it is followed by buboes in the groin, and fre-

ently blotches on the skin, at first attended with inflam-
ation. This at length disappearing, a white scurf arises,
ccessively peeling off and returning. It afterwards be-
mes copper-coloured: and in the end forms a scab, with
ulcer underneath. To these symptoms succeed ulcers
the throat, nodes on the tendons, ligaments, periosteum
d bones, with caries, and nocturnal pains.

CURE, OR TREATMENT.—When any suspicion arises of
ving caught the venereal infection, the person should im-
diately take to a low diet, avoiding all animal food,
ceries, and strong liquors, and confine himself to mild
getables, milk broths, light puddings, &c. His drink
uld be of a smooth kind, the most opposite to acrimony;
h as barley-water, milk and water, linseed-tea, whey,
decoctions of marsh-mallows and liquorice; of which he
ght to drink plentifully. He must avoid all violent exer-
e, particularly riding on horseback, as well as venereal
asures. He must at the same time beware of cold, and,
ing a high state of inflammation, keep his bed.

The cure of a virulent gonorrhœa is not always to be ef-
ted in any determinate time; as it depends not only upon
virulence of the infection, but the particular constitu-
n of the patient. Under the most judicious treatment it
y continue two or three weeks, and sometimes double
space. A slight infection, however, may be carried
in a week, by fomenting the parts with warm milk and
er, and injecting frequently into the urethra a little sweet
or linseed-tea, about the warmth of new milk. After
g these two or three times a day, for some days, till the
lence of the discharge is removed, then, merely to cure
remaining weakness, astringent injections may be given
he same manner, for a similar space of time. Take of
te vitriol one scruple; dissolve it in five table-spoon-
of common water, and use it as an injection, with a
nge.

t the first onset of the disorder, it may very readily be
ped by astringent injections, but this method is not to
dopted when it can be avoided. If the person be of a
guine full habit of body, and the inflammation runs
, it will be proper to bleed, from six to twelve ounces.
ling purges are also advisable in this stage of the com-
nt. Six drachms of Glauber's salts, with half an ounce
anna, dissolved in a gill and a half of warm water, may
aken every second or third day for the first fortnight;

internally, either from a natural aversion to that medicine, or a tenderness of the bowels, it may be applied outwardly with equal success, and, indeed, with less danger to the constitution, which is apt to be more or less injured by a long-continued use of mercurial medicines taken inwardly. For this purpose, the common mercurial ointment, made by rubbing together equal quantities of hog's lard and quicksilver, is very well adapted. About a drachm of it may be rubbed in at night upon the inner part of the thighs. The person should stand before a fire during the operation, and should wear flannel drawers next his skin while he is using the ointment.

If, during this process, the inflammation of the genital parts, and other symptoms, should return, or the mouth should become affected, the patient ought to take a dose or two of Glauber's salts, or some other cooling purge, and the rubbing be intermitted for a few days. But, as soon as the spitting is gone off, if any of the virulence still remains, the use of the ointment must be resumed, though in smaller quantities, and at longer intervals than before; and the mercury, in whatever form employed, must not be discontinued while any particle of virulence is suspected to remain in the body.

During the stage of the complaint in which mercury is used, there is not the same necessity for a strict attention to diet as in the inflammatory state, yet the patient must still avoid intemperance of every kind. The food must be easy of digestion, and not of a heating quality. There must be a total abstinence from spirituous liquors; and if any wine is taken, it must be diluted with a sufficient quantity of water.

When the treatment now described has entirely removed the heat of urine, and the soreness of the genital parts; when the running from the urethra is considerably diminished, and not followed by any pain or swelling in the groin or testicle; when the involuntary erections have disappeared, and the matter discharged becomes pale, whitish, thick, void of ill smell, and viscid or ropy; under these circumstances we may at length proceed to treat it as a gleet, with astringent agglutinating medicines.

Of a Gleet.

This is a discharge of thin matter, resembling the white of eggs, from the urethra, occasioned by relaxation. It nes on generally after a virulent gonorrhœa, and is attend- with little or no pain in making water.

For the cure of this complaint the patient must have ourse to astringent remedies; such as the Peruvian bark, n, &c. Astringent injections may likewise be employed, sisting, as before, of white vitriol, to which a few grains lum may be added: and, when these remedies fail to duce the desired effect, the cold bath may still be used reat advantage.

he use of Pyrmont or Bristol waters, with which a little et or port wine may sometimes be mixed, is in this case isable; as is likewise a decoction of sarsaparilla for com- drink. Blisters applied to the perinæum greatly assist r remedies when the source of the complaint is seated n up in the urethra. If these means prove ineffectual, e is reason to suspect the existence of a callosity in the thra, for the removal of which it will be necessary to have ourse to Smyth's metallic bougies; the size of which uld be as large as the parts can bear, and their use should continued for a considerable time.

Swelled Testicle.

his symptom may proceed from the venereal poison ing in the body a considerable time, but commonly pens from infection lately contracted; and is for the t part occasioned by cold, hard drinking, strong purga- s, violent exercise, the too early use of astringent medi- s, or other errors in treatment.

n the inflammatory stage of this complaint, bleeding is essary, and must be repeated according to the urgency he symptoms. Leeches also may be applied to the part advantage. Fomentations and softening poultices ht to be diligently applied when the patient is in bed; when he is up, at the same time that care is taken to the testicle warm, it must be suspended in a bag or s. The food must be the same as in inflammatory disor- , and the drink be diluting.

, by this mode of treatment, the complaint should not ffectually removed, there will be a necessity for renew- he mercurial process. The mercurial ointment must ubbed on the thighs, as before directed, and the patient be confined to bed, if necessary, for five or six weeks, ending the testicle, all the while, with a bag or truss, internally, either from a natural aversion to that medicine, or a tenderness of the bowels, it may be applied outwardly with equal success, and, indeed, with less danger to the constitution, which is apt to be more or less injured by a long-continued use of mercurial medicines taken inwardly. For this purpose, the common mercurial ointment, made by rubbing together equal quantities of hog's lard and quicksilver, is very well adapted. About a drachm of it may be rubbed in at night upon the inner part of the thighs. The person should stand before a fire during the operation, and should wear flannel drawers next his skin while he is using the ointment.

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Chancres.

Chancres are small callous ulcers, seated chiefly about the glans, and which may appear without any previous gonorrhœa. Their progress is commonly as follows: first, there arises a red pimple, which becomes pointed at the top, and contains a whitish matter inclining to yellow. After breaking, it degenerates into an obstinate ulcer, the edges of which gradually become hard and callous. Sometimes, at its first appearance, it resembles a simple excoriation of the cuticle.

A chancre sometimes appears with gonorrhœa, but is more frequently the cause of a confirmed lues. When it arises soon after impure coition, its treatment differs little or nothing from that of the virulent gonorrhœa. The same cooling diet must be used, with moderate bleeding, and some gentle doses of physic; besides which, the parts must be fomented with warm milk and water, and softening poultices applied. In consequence of this treatment the inflammation commonly abates, and the patient is thus prepared for entering upon a course of mercury.

Symptomatic chancres, or those which arise from a confirmed lues, are commonly attended with other effects, characteristic of their origin; such as ulcers in the throat, scurfy eruptions about the roots of the hair, nocturnal pains, &c. They commonly appear upon the private parts, or the inside of the thigh, but are not always confined to these limits. They are also less painful than primary chancres, but frequently larger and more hard.

Besides the symptoms above enumerated, there are various other affections attendant on this disorder, according to he parts which are most exposed to its virulence; such is a strangury or obstruction of urine, a phymosis, paraphymosis, &c. The first of these complaints may arise ither from a spasmodic constriction, or an inflammation f the urethra and parts about the neck of the bladder. In ne former case, the patient at first voids his urine without ny impediment; but as soon as it touches the inflamed and nder part of the urethra, a sudden constriction ensues, and ne urine is evacuated by spirts, sometimes even by drops nly. When the strangury proceeds from an inflammation bout the neck of the bladder, there is a constant heat and neasiness of the part, with a constant desire to make water, nd a troublesome tenesmus, or an inclination to go to- ool.

When the strangury arises from a spasm or constriction, e proper remedies are those which tend to sheathe and lute the salts of the urine. For this purpose may be used decoction of marsh-mallows, linseed-tea, barley-water, nd the like, with soft and cooling emulsions, which may sweetened with the syrup of poppies. Should the com- aint not yield to these means, recourse must be had to eeding, and the use of emollient or softening fomen- ions.

When the disorder proceeds from an actual inflammation out the neck of the bladder, it will be requisite to bleed re freely, and to repeat the operation according to the gency of the symptoms. After bleeding, if the complaint not removed, soft clysters must be given, to which may added a tea-spoonful of the tincture of opium, or lauda- n; applying also softening-fomentations to the region of bladder. At the same time the patient may take fre- ntly a dish of the decoction of marsh-mallows, with ten fifteen grains of nitre dissolved in it. If the complaint uld still prove obstinate, bleeding must be repeated, and patient put into a warm bath up to the middle. It will y be proper to lay aside the diuretics, and draw off the er by a catheter; or what will give the patient less n, to have recourse to Smyth's hollow bougies, which l to lubricate the passage, and greatly facilitate the dis- rge of urine. But as soon as they begin to stimulate, or any uneasiness, it will be proper to withdraw them.

he phymosis is a constriction of the prepuce over the is, so tight as to hinder it from being drawn backwards; the paraphymosis, on the contrary, is a similar constriction behind the glans, which hinders the prepuce from being brought forwards. In general, bleeding, and gentle purgatives, with softening fomentations and poultices, are sufficient to remove these complaints. Should these means, however, not produce the desired effect, and the parts be threatened with a mortification, it will be advisable to procure a revulsion by a vomit, consisting of a scruple or half a drachm of ipecacuanha, and one grain of tartarised antimony, or tartar emetic; working it off with an infusion of oatmeal-water, or thin gruel.

When, in spite of all endeavours to the contrary, the inflammation proceeds, and a mortification seems to be approaching, to obviate that effect, and prevent a strangula-of the parts, it will be necessary to scarify the prepuce, or divide it; which being the province of a surgeon, it is unnecessary here to be described. When a mortification has actually commenced, it will be necessary likewise to foment the parts frequently with cloths wrung out of a strong decoction of chamomile flowers and the Peruvian bark, and that the patient take a drachm of the latter in powder every two or three hroas.

In respect of some other symptoms, such as a priapism, and distortions of the penis, they must be treated in the same manner as the virulent gonorrhœa. When they prove very troublesome, they may commonly be relieved by a moderate dose of the tincture of opium taken at bed-time.

Of Buboes.

These are hard tumors seated in the groin, and are distinguished into two kinds, viz. such as proceed from a recent infection, and such as accompany a confirmed lues. The cure of the former may be first attempted by discussion, or, that not succeeding, by suppuration. For discussing a bubo, the treatment is the same as has been recommended in the first stage of a gonorrhœa. The patient must likewise be bled, and leeches applied to the part affected; after which it will be proper to take some gentle purgative, such as a decoction of tamarinds and senna, Glauber's salts, manna, &c. Some mercurial ointment should then be rubbed upon the part. By such means, it frequently happens that the tumor is dissolved in two or three days; but if the heat, pain, and pulsation, still continue, it will be advisable to promote suppuration; which is to be effected by softening poultices, or the galbanum-plaster, applied to the part, ice or thrice a day; the patient at the same time using s ordinary diet. When the tumor is ripe, which may known from its appearance, and the fluctuation of mat- , it may be opened either by a caustic or lancet, and erwards dressed with digestive ointment. Should it not wever yield to the means either of discussion or suppu- ion, but remain a hard scirrhous tumor, an endeavour st still be made to dissolve it by the application of hem- k, both externally and internally, as directed with regard the testicle. The last expedient respecting a hard indo- t tumor is to destroy it with caustic.

When either by neglect, or imperfect treatment, the ve- eal poison has remained so long in the body as to conta- nate the whole habit, there ensues that degree of the dis- ee which has received the name of syphilis or a confirmed s, and may be known from particular symptoms. There eason to suspect that the poison is universally diffused, he local symptoms, such as chancres, buboes, &c. do not e way to the usual methods of cure, or, when cured, if y break out again without any fresh infection. But if, he same time, we find ulcers breaking out in the throat, scabby eruptions on the skin, or hard callous tubercles, pustules covered with a yellow scab, and appearing efly on the hairy parts, we may be almost certain that disease is confirmed.

ometimes, however, these symptoms appear without previous affection of the genitals, and may be the con- uence of other species of acrimony; but the following be considered as characteristic signs of the disease.

enereal eruptions have a branny appearance, and are su- cial, unattended with itching; and the scales being kked off, the skin appears of a reddish brown, or rather er-colour underneath. The tubercles, or pustules, sel- occupy the cheeks or the nose, and are covered at the either with a dry branny scurf, like the eruptions just tioned, or with a hard, dry scab of a tawny-colour. y particularly break out amongst the hair, or near it, on orehead or temples.

enereal ulcers of the mouth first affect the tonsils, uvula, top of the throat; afterwards sometimes, though very y, the gums. They frequently extend to the nose, and allous or hard in their edges; are circumscribed, and e mort part circular, at least they are confined to cer- places; are generally hollow, and most commonly covered with a white or yellowish slough at the bottom. They are red in their circumference, and frequently corrupt the subjacent bones; being also in general combined with symptoms known to be venereal.

With regard to pains, those which are deep seated, particularly of the arms, head, and shins, always fixed in the same place, and which affect the middle and more solid part of the bones of the arms and legs, and those of the head, raging chiefly and with great violence in the *fore-part of the night*, may be regarded as sure symptoms of this disease. But other wandering pains of the membranes of the muscles, and the ligaments of the joints, though they may arise from a venereal taint, cannot be considered as certain signs, unless other symptoms of the lues appear at the same time.

Hard indolent swellings in different parts of the body, as in those which are fleshy, in the periosteum, upon the tendons, ligaments, or bones, or those protuberances at the verge of the anus, called fici; though they all are signs of a confirmed lues, yet if not preceded or accompanied by other certain signs of this disease, cannot be regarded as decisive in forming an opinion of its real existence, because it is possible they may depend upon some lurking scrofulous humour. When they proceed from this source, they are very seldom painful, or tend to inflame and suppurate, as those which are venereal generally do; and if they lie upon a bone, they commonly produce a caries.

Frequent abortions, or the exclusion of scabby, ulcerated, half-corrupted, and dead fœtuses, happening without any manifest cause to disturb the fœtus before its time, or to destroy it in the womb, may be regarded as a certain and infallible sign of one of the parents being tainted with the venereal disease.

Various are the remedies which have been recommended by different practitioners for the cure of this virulent disease; but experience evinces, that the only antidote to be depended upon is mercury; and that in most constitutions, the application of it externally by unction, is in general the method to be preferred. Every preparation of this mineral is not found equally successful. The solution of corrosive sublimate, once greatly extolled, has now declined in reputation. In the mean time, acids, especially the mineral, have acquired a degree of celebrity in the cure of the venereal disease; and the nitrous acid is by some regarded as more efficacious than even mercury itself. It seems indeed, in many instances, to palliate the disease, and even to cure, at least for a time, some of the symptoms; though mercury must still be regarded as the resource which has the justest claim to be infallible. Its efficacy, however, in a confirmed lues, especially when of long standing, may be assisted by a decoction of the woods, particularly sarsaparilla; in these cases the cure can rarely be depended upon, unless the mercurial course be continued six weeks or two months.

I cannot conclude this subject without cautioning my readers against the frauds and villainy of quacks. No person that advertises by hand-bills or in news-papers can be trusted. The expence of their nostrums is from seventeen to twenty-eight times greater than that of the medicines I have recommended; and the consequences produced by their solar tinctures, balms of Gillead, and botanical or vegetable syrups are often too shocking to be mentioned.

CHAP. XVIII.

Of Scirrhus and Cancer.

A SCIRRHUS is a hard indolent tumor, generally occupying some gland; such as the breasts, arm-pits, groins, &c. Should it neither be dispersed, brought to suppuration, nor extirpated, it may nevertheless remain many years without proving injurious to the constitution. But if it become large, unequal in its surface, of a livid colour, with acute darting pains, it obtains the name of an occult cancer. This likewise, under a temperate and cooling diet, may continue for many years without greatly molesting the patient; but if the skin break, and an ulcer be formed, which generally discharges a thin acrimonious matter, of an extreme fœtid smell, it is called an open or ulcerated cancer; a disorder most incident to the decline of life, and to the female sex, more than the male.

CAUSES.—It may be occasioned by habitual grief, melancholy, and despondency of mind; by a blow, bruise, or other internal violence; and frequently by the suppression of some accustomed evacuation.

This disorder, at the beginning, appears generally inconsiderable, in respect of its size, and will often remain stationary a long time, without any symptom of future uneasiness or danger; but if either the health be much affected by any causes of relaxation, or the tumor be exasperated by pressure or internal excitement, it extends its limits towards the neighbouring parts, by an elongation in the form of roots or limbs; from a fancied resemblance between which and the claws of a crab, it has been denominated a cancer.—The skin then changing its natural colour, becomes red; and after various transitions into purple, blue, and livid, assumes at last a black, of which colour it ever after remains. The patient complains of a burning heat, and lancinating pain. The tumor, meanwhile, continues increasing, and the surrounding veins, distended with blood, become likewise black. At length the skin gives way, and a thin acrimonious fluid begins to flow from the orifice, corroding by its sharpness the neighbouring parts, until it forms a large ulcer of a hideous appearance. More tumors of the same kind are now generated, and communicate with the neighbouring glands. The shooting pains, which formerly were troublesome, now increase in violence; and the stench, which issues from the ulcer is intolerable, even to the patient. Such is the acrimony of the ichor discharged, as to excoriate, and even destroy the neighbouring parts. In the more advanced stages of the disease, by the erosion of blood-vessels which occurs, considerable quantities of blood are sometimes also discharged.

There is perhaps no disorder which so much requires a slender light regimen and an easy disposition of mind, as a cancer. The diet ought to consist chiefly of milk and vegetables, avoiding all high seasoned or salted provisions, and spirituous as well as fermented liquors. Even wine, though sometimes admissible as a cordial, must be used with moderation. The best drink is a decoction of the woods, or sarsaparilla. The patient ought to use daily moderate exercise in the open air; defending, however, the part affected from cold, by light warm covering, and guarding likewise against all pressure. The mind, in the mean time, should be constantly kept as easy and cheerful as possible.

CURE.—The cancer has hitherto baffled all the efforts of medicine for a certain and radical cure. When an induration of a gland is the consequence of some external injury, the most advisable method of cure is that of extirpation, provided the part be so situated as to admit of this resource. But when it proceeds from a vitiated state of the humours, is of long standing, and the habit of body debilitated, the most that can be done for a confirmed, especially an ulcerated cancer, is to defend it as much as possible from all irritation. In its incipient state, if there be any inflammation, a little bleeding is proper, and the patient should frequently take cooling laxatives, such as Glauber's salts, manna, &c. Some leeches may likewise be applied to the neighbourhood of the part affected, and a little of the mercurial ointment rubbed gently upon it every day, keeping it afterwards covered with soft flannel or fur.

Both in this state of the tumor, and an ulcerated cancer, fomentations with hemlock are of great advantage; as is likewise the extract taken internally, in the form of pills. The proper way of using it is to begin with two grains twice a day, and increase the dose gradually, as far as the patient can bear it. In tender habits it is apt at first to affect the head; but this symptom commonly goes off by using it a little time; or if it continues, the use of the medicine may be occasionally suspended for two or three days. The fresh juice of hemlock is thought more efficacious than the extract; and ought to be begun in the quantity of four or five drops, gradually increasing the dose.

Salt water has been found a very efficacious alterative in many cancerous cases, particularly in the beginning of their progress. A grain of corrosive sublimate of mercury, dissolved in some brandy, and taken night and morning, produces often good effects in cancers of the face and nose. An infusion of night shade is also recommended in cancer of the breast: and wherever situated, a solution of arsenic has proved highly serviceable, particularly in cancers of the occult kind. It is advised to be given in the following manner: Take of white arsenic four grains; dissolve it in a pound of distilled water. Take of this solution, cow's milk, and the syrup of white poppies, each a table-spoonful. Mix and take them every morning, doubling the dose every week.

Wort, or an infusion of malt, has been recommended, not only as a proper drink, but an efficacious medicine in this disease. It may be drunk at pleasure, and should never be more than two days old.

It is of great consequence in an ulcerated cancer, that the part be kept clean. The best application for this purpose is found to be the carrot poultice; which is made by grating the root of the common carrot, and moistening it with a sufficient quantity of water, to make it into a proper consistence. This ought to be applied to the part, and renewed twice a day. Besides cleansing the sore, which it generally does, it allays the pain, and greatly diminishes the smell, so extremely offensive in this complaint.

For preventing this disagreeable symptom, nothing is so effectual as the external application of carbonic acid air and carrot poultices.

Setons, or issues, in the neighbourhood of a cancer, have sometimes been found serviceable.

When all other medicines prove ineffectual for curing or palliating this dreadful complaint, the last resource is to opium; not, however, to remove the disorder, but to mitigate the pain, and compensate, in some degree, the impossibility of affording more permanent relief.

To guard against the invasion of this terrible disorder, care should be taken to avoid all unwholesome food; to preserve the health by daily exercise in the open air; to banish all sadness and despondency, by habitual cheerfulness; and to beware of any accident that might hurt a glandular part, and lay a foundation for the disease.

CHAP. XIX.

Diseases of the Brain and Nervous System.

Of the Apoplexy.

AN apoplexy is a sudden deprivation of sense and voluntary motion, without convulsions. The face appears red and bloated; the mouth is commonly open; the pulse, especially at first, is strong and quick; the respiration is likewise strong, and attended with snorting. It is most incident to people in the decline of life; and to those chiefly who have short necks, and use a rich and plentiful diet, without much exercise. It is frequently preceded by a pain or giddiness of the head, drowsiness, noise in the ears, loss of memory, and a difficulty of breathing.

Causes.—The immediate cause of an apoplexy is a compression of the brain, proceeding from an excess or effusion of blood, or a collection of watery humours in the ventricles. The former is called a *sanguineous*, and the latter a *serous* apoplexy. It may be occasioned by any thing that increases the motion of the blood towards the brain, or prevents its return from that part; violent passions; rich and luxurious diet; excessive use of spiceries, or high-seasoned food; hard drinking; excess of venery; suppression of urine; the stoppage of any customary evacuation; suffering the body to cool suddenly, after having been much heated; wearing any thing too tight about the neck; viewing objects for a long time obliquely; the sudden disappearance of any eruption; long exposure to excessive cold; a mercurial salivation suddenly checked by cold, &c.

CURE.—In the sanguineous apoplexy, which may be known from the plethoric constitution of the person, and the florid and turgid appearance of the face during the fit, every effort must be made to relieve the oppression of the brain. The patient should be placed upon a chair, and his clothes about the neck be loosened; tightening at the same time his garters, to retard the motion of the blood from the lower extremities. The apartment ought to be kept cool. He should then be bled freely from the jugular vein, or arm; and in two or three hours the operation, if necessary, be repeated. Bleeding in the foot is also proper; as is likewise cupping the back part of the head, with deep scarification. A laxative clyster should now be given, with four tablespoonfuls of sweet oil, or some butter, and two spoonfuls of common salt. This likewise ought to be repeated every two hours, and made stronger, by the addition of some resin of jalap, or other stimulating substance, if the patient still remains in a state of insensibility. Under the same circumstances, blistering plasters should be applied to the legs and thighs, and also to the head, and between the shoulders.

As soon as the symptoms have so much abated that the patient is able to swallow, he ought to take some opening medicine, such as Glauber's salts, an infusion of senna, or like. Or these may be combined in the following manner, and taken at intervals, in the quantity of a cupful, till an effect is produced: Take of senna three drachms; infuse for some minutes in a pint of boiling water; and in the strained liquor dissolve an ounce of Glauber's salts, and an ounce of manna.

It being common in swoonings to apply volatile salts or spirits to the nose, and, if possible, to give the patient cordials by the mouth, a caution ought to be given against all such resources in the sanguineous apoplexy. Vomits likewise must be prohibited, on account of their preventing the motion of the blood from the head.

In the serous apoplexy, which may be ascertained from the constitution of the patient, as well as from the pulse being less strong, and the countenance less florid than in the preceding, bleeding is not always requisite, and sometimes not even admissible, though generally it may be performed once, in a moderate degree. Leeches, however, may be applied to the temples with advantage; and, besides clysters, purgatives, and blisters, as in the former case, quick and brisk vomits, of white vitriol, or tartarised antimony, are to be given as soon as possible. If the patient be inclined to sweat, it ought to be promoted by drinking small wine-whey; as this evacuation sometimes proves critical of the disorder.

When an apoplexy is occasioned by opium, or other narcotic substances taken into the stomach, the most effectual remedy is a vomit, which ought to be administered immediately.

Those who have suffered an apoplectic fit, especially if pre-disposed to the complaint, should avoid the extremes of heat and cold, and guard against all violent commotions of the mind. They ought to keep their feet warm, as well as free from wet; to abstain from heavy suppers; to wear nothing too tight about the neck, and to lie with the head high. Perpetual issues, or setons, have likewise great effect in preventing a return of the disorder. To avoid both kinds of apoplexy the body should be kept open. In the sanguineous kind, prevention is best effected by a cooling vegetable diet; but in the serous, by a diet of light animal food, with a few glasses of wine, and moderate exercise.

CHAP. XX.

Epilepsy, or Falling Sickness.

THE epilepsy is a deprivation of all the senses, accompanied with violent convulsive motions. It is commonly preceded by a pain in the head, lassitude, disturbed sleep, noise in the ears, a palpitation of the heart; and in some there is a sensation of cold air ascending from the lower extremities towards the head.

When it comes on during infancy or childhood, there are some hopes of its going off at the age of puberty; but if it attacks after the twenty-first year, and still more at a later period, there is reason to apprehend that the person will continue subject to it for life.

CAUSES.—This disease may be occasioned by various accidents within the brain; blows, wounds, or bruises on the head; excessive drinking; violent passions; intense application of mind; suppression of customary evacuations; venereal excesses; hysteric affections; too great emptiness or repletion, &c.

SYMPTOMS.—The person, when seized with an attack of epilepsy, falls suddenly to the ground. In general, the limbs are violently convulsed; but sometimes, instead of being agitated, they are stiff and immoveable. It often happens that the patient discharges the urine and fæces involuntarily; and, during the violence of the fit, he sometimes bites his tongue. But the symptoms most characteristic of the disease are, that he frothes at the mouth, and his thumbs are shut up so close in the palms of his hands, that it is difficult to disengage them. When the fit is over, his senses gradually return, and he complains of a weariness and pain of his head; but is utterly insensible of what happened during the paroxysm, and commonly falls asleep.

CURE.—The method of curing this disease must be various, according to the cause that produces it. When occasioned by any injury of the head or brain, the previous effect must be removed: but if this cannot be done, or at least not immediately, the treatment must be so directed as to moderate the violence of the convulsive symptoms. If the person be of a plethoric constitution, and there be reason to suspect an accumulation of fluids in the head, it will be proper to bleed from the jugular vein. But, during this operation, the surgeon should put his finger to some artery, and if he finds the pulse rise while the blood is flowing, he may persist; but if otherwise, it will be prudent to stop. Blisters, however, or poultices of mustard, should be applied to the lower extremities; and clysters, with which two drachms, or an ounce, of milk of asafœtida is mixed, should be injected; rubbing, likewise, along the spine or back-bone some of the compound camphor liniment*, or other stimulating and antispasmodic application. If the disorder be supposed to proceed from worms, recourse must be had to the medicines adapted to that purpose, as directed in the diseases of children. If from teething, the gums should be lanced, the body should be kept open by softening clysters, and the feet frequently bathed in warm water; at the same time that a blister may be applied between the shoulders. This method of cure is also to be practised when the epileptic fits precede the eruption of the small-pox, measles, &c.

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* See *Appendix.*

During the fit, care should be taken to prevent the patient from bruising himself by the convulsive agitations; and particularly to prevent his hurting the tongue with his teeth, by holding a piece of soft wood between the teeth.

When the fits have ceased, the attention should be directed towards obviating their future return. When the disorder depends upon any sensible and determinate cause, such as worms, the suppression of any customary evacuation, &c. the proper remedies are evident; but, in other cases, prescription can only be guided by experience. Various medicines have been celebrated by different authors for the cure of this disorder, though none of them has been found universally successful, either by practitioners or patients. That many of them, however, have really proved efficacious, the respectable authorities on which they have been recommended leave no room for any doubt; and it is therefore advisable to make trial of their virtues in every disease of the same nature. The medicines most extolled in this case, are musk, the root of wild valerian, the flowers of zinc, and ammoniacal copper, nitrated silver, and the flowers of the cardamine or ladies-smock. The dose of musk may be from six grains to half a drachm, twice a day; valerian, from a scruple to a drachm in powder, and in infusion, more than double that quantity; zinc, from half a grain to eight grains and upwards; and ammoniacal copper, from a quarter of a grain to five grains; nitrated silver, from one eighth of a grain to one grain. In administering the three latter, it is always proper to begin with small doses, and increase them gradually.

Among the most effectual remedies for this disorder are, likewise, the Peruvian bark, and the cold-bath; the powerful virtues of both which, in strengthening the constitution, are sufficiently well known. Whatever remedies are employed, the patient ought to persevere in the use of them for a considerable time: for no disease, to which there is any pre-disposition in the habit, can very soon be eradicated.

Persons subject to the epilepsy, should endeavour to breathe a free and pure air. Their diet should be chiefly light animal food; and they ought to avoid strong liquors. Daily moderate exercise is of great service, as well as tranquillity of mind; and it must occur to their own observation, that they ought to avoid fording deep rivers, or placing themselves in any situation where a sudden attack of the disorder might prove irretrievably fatal.

CHAP. XXI.

Of the Hysteric Disease.

THIS disease affects women of a great sensibility of constitution, and who are frequently liable to obstructions of the natural discharge. It is of all disorders the most various in its appearance; and generally comes on between the age of puberty and thirty-five. It also more frequently seizes barren women, and young widows, than such as are bearing children.

SYMPTOMS.—The disorder commonly begins with a languor and debility of the whole body; yawning, stretching, and restlessness. A sense of coldness in the extremities almost always precedes, and for the most part continues during the whole of the hysteric fit. Sometimes, however, this is alternated with a sense of heat in different parts of the body. The colour of the face is variable, being sometimes flushed, and sometimes pale. There is a violent pain in the head; the eyes become dim, and pour out tears. There is a rumbling and inflation of the intestines. A sensation is sometimes felt like that of a globe ascending from the lower part of the belly, and which rolls along the whole alimentary canal. It ascends to the stomach, sometimes suddenly, sometimes slowly; and there produces a sense of weight and anxiety, nausea, and vomiting. At last it comes up the throat, where it produces a sense of suffocation, and difficulty of breathing or swallowing. During this time, violent pains are felt, both in the external and internal parts of the abdomen, accompanied with convulsive motions of the muscles. Sometimes the fit ceases after these symptoms have continued for a certain time; but more frequently the patient falls into a fainting fit. Sometimes she lies quite motionless, as if in a profound sleep; sometimes she beats her breasts violently with her hands. At other times, she is seized with general convulsions, and the disease assumes the appearance of an epilepsy. In some patients, a violent beating pain takes place in some part of the head, as if a nail was driving into it, and all objects seem to the person to turn round. Sharp pains, likewise, attack the loins, back, and bladder, and the patient makes an extraordinary quantity of urine as limpid as water; which is one of the most characteristic signs of the disease. The mind, as well as the body, is greatly affected. Sometimes the person is tormented with vain apprehensions; sometimes she will laugh, at other times cry immoderately.

The appearances which take place in this affection are, indeed, so various, that they cannot be enumerated; but all the symptoms of the disease seldom concur in the same person: for they vary extremely in every circumstance. When the fit remits, the pulse becomes more strong; the heat returns to the extreme parts; a rumbling noise arises in the belly; and at last, as if awaking from a profound sleep, the patient regains her voice, sense, and motion; but complains of a heavy pain of the head, and a general weakness.

Cure.—During a violent hysteric fit, if the patient be of a sanguine constitution, some bleeding may be of service; but otherwise, especially in delicate habits, this operation is not advisable. Fœtid volatiles, singed feathers, and the like may be applied to the nostrils; and cold water, and fœtid volatiles, administered internally, if the patient can swallow. Cold water may also be sprinkled on the face and breast. Cool fresh air should be admitted into the apartment, and the patient's feet and legs be placed in warm water. Friction of the lower extremities is also useful. Particular attention should be paid to the state of the monthly evacuation. If deficient, it ought to be promoted; and if too copious, should be restrained, as will afterwards be directed in the treatment of these complaints. If the patient be costive, it will be proper to give a laxative clyster with milk of asafœtida.

For the radical cure of the hysteric disorder, recourse must be had to those means which strengthen the nervous system, the chief of which are chalybeate medicines, or the preparations of iron, the Peruvian bark, and the cold-bath. But medicines which allay irritation are likewise advisable occasionally. Take of the tincture of asafœtida, and of castor, each two drachms; compound spirit of lavender, four drachms. Mix and preserve them for use. A tea-spoonful of this mixture may be taken, in a little water, upon the approach of any languor; and when the person feels herself under any agitation, ten or twelve drops of laudanum may be added to a dose of it. On such emergencies, likewise, as well as during a fit, the application of the anti-hysteric plaster* to the belly will be found of great advantage.

An attention to diet is highly proper for the removal of this disorder. Milk, where it agrees with the stomach, has frequently good effects; but, otherwise, the diet should consist of light animal food. In general, malt-liquors, as being flatulent, are not advisable; except good porter. The best drink is water, with the addition of red-wine, if it agrees with the patient; but if not, a small quantity of spirits. If the patient cannot comply with a total interdiction of tea, she ought to use it sparingly. Exercise, particularly riding on horseback, is of great service; as are, likewise, amusements and cheerful company.

CHAP. XXII.

Of the Hypochondriac Disease.

THIS complaint is chiefly incident to persons of a sedentary life and studious disposition; especially such as have indulged grief or anxiety, and are advanced in years. It is attended with pains, more or less violent, under the short ribs in the left side; frequently with an inflation, which sometimes becomes stationary. It is also accompanied with indigestion, watchfulness, palpitations of the heart, sometimes a looseness, but generally costiveness. Besides these symptoms, there occurs a peculiar depression of the spirits, with ridiculous fancies, and a strong apprehension of danger, which may be regarded as the characteristic sign of the disease. The patient is frequently troubled with a spasmodic constriction of the throat, sour belchings, and vomiting; when the matter thrown up is sometimes so acrid as to prove corrosive.

Causes.—This disorder may be occasioned by a high and full diet; indolence; the suppression of customary evacuations; violent passions of the mind; great, or long-continued evacuations; obstructions of some of the bowels, &c.

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* See *Appendix*.

The immediate cause of the hypochondriac disease appears to be a great weakness of the organs of digestion, often inherited, in consequence of which the aliment is not properly digested, and the constitution, from the want of due nourishment, is enfeebled.

CURE.—The first step in the cure is to clear the stomach, and intestinal canal, of their acrid, or viscid, contents, by means of gentle vomits and purgatives; and, until the strength of those parts can be restored, the production of fresh impurities will be retarded by the use of absorbent medicines, such as crabs' claws, chalk, magnesia, and the like, which are well adapted to correct the prevailing acrimony, and sluggish humours, in this disease. The most suitable vomit will be ipecacuanha; and the purgative, either some aloetic pills, taken at bed-time, or half a scruple of rhubarb, with a drachm of calcined magnesia, taken once or twice a day, according as it operates on the constitution of the patient. In the mean time, the symptoms will generally be abated by frequently bathing his feet in warm water at going to bed.

A vomit and purge having been premised, the patient ought to enter upon a course of such medicines as are calculated to strengthen the stomach and bowels, and thereby promote digestion. The great remedies for answering this intention are, the Peruvian bark, bitters, and the different preparations of iron, which may be taken in any form most agreeable to the patient. The cold-bath, as a general strengthener, is inferior to no remedy yet known; but it is not so advisable, at first, to hypochondriac patients, until their bowels have acquired a degree of firmness by the previous use of corroborants administered internally.

Moderate exercise is indispensable in the cure of this complaint; and it cannot be taken any way with so much advantage as in long journeys, when convenient, accompanied with such circumstances as may convert them into an agreeable amusement. The patient ought to endeavour to guard against all the depressing passions, as well as against that splenetic humour, peculiar to the disease, and which, if indulged, contributes not a little to increase it.

Proper diet constitutes an essential part in the treatment of this malady. In general, light animal food is what alone agrees with such patients; for there are few, if any, vegetables which do not prove flatulent in their bowels. Acids are particularly injurious. All malt-liquors, except porter, are apt to excite too high a fermentation in the stomach; and wines, for the most part, are liable to the same objection. If an exception can be made in favour of any, it is good old Madeira, if they can get it, which not only promotes digestion, and invigorates the concoctive powers, but acts, immediately, as a generous and wholesome cordial. The use of spirituous liquors is not to be recommended as a habitual resource, though they may be taken occasionally, in a moderate quantity, diluted with water. Pyrmont water is, in this case, the most suitable drink, or the artificial imitations of it, which are much cheaper, and quite as efficacious.

CHAP. XXIII.

Disorders called Nervous.

NERVOUS disorders are so various in their appearances, that a minute description of them would be equally tedious and unprofitable. Though chiefly incident to women, and men of delicate constitutions, persons apparently vigorous are not exempt from their influence. In fact, there is scarcely an individual who is not occasionally liable to some slight and transient nervous affection; and it is only when they become habitual, and troublesome or violent in degree, that they merit the name of a disease. Their source is generally in the stomach and intestines, where they produce acidities and distensions; sometimes a craving appetite, and frequently a rumbling noise in the bowels. The urine is sometimes in small quantity, and at other times very copious and quite clear. The person is occasionally subject to a palpitation of the heart, and a difficulty of breathing; has often slight spasms, or startings, and his sleep is generally unsound and disturbed with dreams. This affection is commonly accompanied with an irritability of mind, and, sometimes, with low spirits.

CAUSES.—A disposition to nervous complaints is often hereditary, and may be brought on by every thing that relaxes or weakens the body. The most common of these, are great, or long-continued, evacuations of any kind; too watery a diet, or an immoderate use of tea; an indolent life; intense application to study; extreme grief, anxiety, or vexation.

CURE.—The cure of nervous affections depends far more upon diet and exercise than medicine. The latter, however, is by no means of small importance. Stomachic bitters, with the Peruvian bark, and preparations of iron, have great efficacy in strengthening the nervous system, and ought never to be omitted in those cases. The cold-bath is yet more powerful for the same purpose, where no particular weakness of the bowels renders the use of it improper. Sea-bathing is preferable to that with fresh-water; and from March to November is the fittest season for using them. Three or four times a week is sufficient; and the best periods, either an hour or two before breakfast, or two hours after it.

No disease requires a more strict attention to diet than the nervous affection. This ought to consist chiefly of light animal food; vegetables, in general, disagreeing with such constitutions. With most nervous patients, potatoes are found to agree better than any other vegetable; but there are exceptions in different constitutions. Acids, for the most part, are hurtful, but the moderate use of spiceries beneficial to their stomach and bowels. They ought never to eat of new bread, and all their bread should be well baked. They may eat of mild apples in tarts, but the juice of this fruit in cyder is commonly hurtful.

The best drink for nervous persons is good porter or ale; but where this cannot be had, pure water, with a toast in it. Except good madeira, as has been observed in the last chapter, all wine is apt to sour on the stomach, and occasions pains in the bowels and watchfulness in the night. A little brandy may sometimes be taken with the water, but the practice should not become habitual.

Daily exercise, without fatigue, is highly conducive to the health of nervous persons. The most beneficial is riding on horseback, though sometimes a carriage, and sometimes walking, may be preferable. Sailing, likewise, is of considerable advantage in this complaint. But to all the conjunct influence of medicines, diet, and exercise, must be added tranquillity of mind, which is an indispensable auxiliary in the cure of nervous disorders.

Flatulencies, or Wind.

This symptom, which proceeds from a relaxation of the stomach and bowels, is peculiarly incident to nervous patients, and greatly contributes to aggravate their complaints. The radical cure of flatulencies can only be effected by that of the primary disorder, but they may be moderated by a strict attention to the diet already prescribed, and by palliative remedies. Among the most efficacious for this purpose, are asafœtida, æther, and opium. Æther may be taken, in the quantity of two tea-spoonfuls, or upwards, mixed with four table-spoonfuls of water. Ten grains of asafœtida, with half a grain of opium, made into two pills, may be taken for the same purpose; and it is observed, that the good effects of opium are equally conspicuous, whether the flatulence be contained in the stomach or intestines; whereas the warm medicines, commonly called carminatives, such as juniper-berries, ginger, seed of anise, &c. do not often give immediate relief, except when the wind is in the stomach. When laudanum is used for the purpose, fifteen drops of it may be taken in some pepper-mint-water, with double the quantity of tincture of castor, or sweet spirit of nitre.

External applications may likewise be employed with advantage against this complaint. Take of Bate's* anodyne balsam, an ounce; of the expressed oil of mace, half an ounce; oil of mint, two drachms. Mix them together, and let a table-spoonful of the composition be well rubbed on the parts at bed-time. A more permanent remedy may be composed of equal parts of the anti-hysteric and stomach plaster †, spread upon a piece of soft leather, of such size as to cover the greater part of the belly. This should be kept on for a considerable time, provided the patient be able to bear it; but if it give great uneasiness, it may be removed, and the liniment, just now mentioned, used in its room.

The Hiccup.

The hiccup is a convulsive motion of the diaphragm, or midriff, and the muscles which close the passage leading into the wind-pipe. It is sometimes a primary disease, but commonly only symptomatic.

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* See *Appendix*. † See *Appendix*.

This complaint may proceed from too great a repletion of the stomach, whether by eating or drinking; from irritation, or acrimony; poisons; inflammation, or scirrhous tumor, of the stomach, or neighbouring parts. In malignant fevers, and gangrenes, it is often the harbinger of death.

Cure.—When the hiccup is owing to a surfeit, or anything hard of digestion, it may generally be removed by a glass of peppermint-water, or a drachm of some spirituous liquor. When occasioned by acrimony, some troches, or lozenges of liquorice, or a drachm of gum-arabic dissolved in some water, may be taken. If the cause be poison, milk and oil, as formerly directed, must be taken in large quantities. When it proceeds from an inflammation of the stomach, which is a very dangerous case, it must be treated in the same manner with that disorder. If from a foulness of that organ, the proper remedies are a gentle vomit and purge; and if from flatulence, a bit of ginger may be chewed, or some of it powdered, may be taken in half a glassful of water. One of the most dangerous causes of a hiccup is an internal gangrene or mortification; against which if any medicine can prove effectual, it must be the Peruvian bark.

In an obstinate hiccup, fifteen or twenty grains of musk, made into a draught with three table-spoonfuls of pure water, thirty drops of the compound spirit of lavender, and a small bit of sugar, may be taken two or three times a day. Of antispasmodic remedies, the last recourse is to opium, which in this case operates more safely when joined with other medicines than when taken alone. Twelve or fifteen drops of laudanum may be added to the preceding draught. Besides internal remedies, the compound plaster of labdanum, or Venice treacle, applied to the region of the stomach, has frequently good effects.

Sternutatories, or those remedies which excite sneezing, are often beneficial in this complaint. When it proceeds from no fixed cause, retaining the breath for a considerable time; any sudden surprise or fright; swallowing a little cold water, or a tea-spoonful of vinegar very slowly, holding the breath at the same time as long as possible, often puts a stop to it.

Cramp of the Stomach.

This painful and dangerous complaint is chiefly incident to people advanced in years, especially those who are subject to the gout, or any nervous disorder. When it is attended with an inclination to vomit, the discharge should be promoted by chamomile-tea. A laxative clyster then may be given; and afterwards a smaller clyster of warm water, to which a tea-spoonful of laudanum is added; as an opiate given by the mouth has often the effect, at first, of increasing the complaint of the stomach. If the pain return with violence after the mitigation produced by the anodyne clyster, another should be given with about a third part more of laudanum. The patient ought also, every four or five hours, to take half a scruple of musk, made into a bolus with half a drachm of Venice-treacle.

During the use of these means, some of Bate's anodyne balsam should be rubbed on the part affected, and anti-hysteric plaster, or a cataplasm of Venice-treacle worn upon it for some time, to prevent a return of the disorder.

When the complaint proceeds from a suppression of the menses, the patient's feet and legs ought to be put into warm water, and some blood taken away; and in general, when the cramp is violent, some blood should be let, if the person can bear the evacuation. If the disorder proceed from the gout, a glass of brandy, or spirit of peppermint, with a tea-spoonful of the compound spirit of lavender, or æther, should be taken; applying at the same time blistering plasters to the ancles, and previously bathing the feet and legs in warm water.

Incubus, or Night-Mare.

This complaint attacks a person during sleep, and when he lies on his back, particularly after eating a heavy supper. It is felt in the form of a great weight or oppression about the breast and stomach, and is generally accompanied with frightful apprehensions. The person groans, and sometimes cries out, but more frequently attempts to speak in vain.

This disorder arises chiefly from indigestion, in persons of weak nerves, who use a plentiful diet, and do not take proportionable exercise. Flatulence in the stomach, as well as too heavy a supper, is apt to produce it. The best preventive is exercise, and a light supper. If any oppression of the stomach be felt at going to bed, it may be relieved and the complaint prevented, by taking a moderate glass of brandy, or rather a glass of peppermint-water.

Somnambulism, or the custom of walking during sleep, is justly considered as a different modification of this disease, and requires the same method of prevention.

Swoonings, or Fainting Fits.

These complaints may be occasioned by excessive weakness, great fatigue, or a sudden loss of blood; but in persons of weak nerves, or delicate constitutions, they may arise from various other causes; such as fear, grief, and other violent passions of the mind; a sudden transition from cold to heat, or breathing air deprived of its proper elasticity, as happens in crowded assemblies, where the apartment is not duly ventilated.

When a person is seized with a fainting fit, his hands and face ought immediately to be sprinkled with vinegar or cold water, and his temples rubbed with strong vinegar or brandy. He ought likewise to be made to smell to vinegar, or volatile salts or spirits; and if he can swallow a little wine, or some other cordial, it should be poured into his mouth. If he should not recover by these means, and was not before excessive weak, it will be proper to draw some blood, and afterwards give a clyster, but bleeding is not advisable where the person is of a delicate constitution.

If the patient be a person subject to hysteric fits, castor, asafœtida, or burnt feathers, should be applied to the nose, as directed in the treatment of the hysteric disease.

After recovering from a fainting fit, if it had been produced by great fatigue, long fasting, or other obvious causes of accidental weakness, the patient must be supported by generous cordials, such as wines, jellies, and the like; which must at first be given in small quantities, and gradually increased as the patient is able to bear them. Fresh air should be admitted into his apartment, where he should be allowed to lie quite still and easy upon his back, with his head rather low.

Low Spirits.

Persons of weak nerves are subject to this distressing complaint, which generally proceeds from a relaxed state of the stomach and bowels. Nothing tends more to produce it than grief and anxiety long continued. It is very apt to be increased by flatulence; and is sometimes occasioned by a suppression of the menstrual or hæmorrhoidal flux.

CURE.—This complaint is to be treated entirely in the same manner as nervous disorders, of which it may be considered as a symptom. If there be a load at the stomach, or any collection of acrid humours, which may be known either from a sour or bitter taste accompanying eructations of belchings, it will be proper to excite gentle vomiting by a moderate dose of ipecacuanha, or an infusion of chamomile-flowers. This being done, the patient should next clear the intestines with some gentle purgative. To answer this purpose, he may take a drachm of sal polychrest, dissolved in half a pint of warm water, two or three mornings successively. If this dose gives him two stools in the day, it will be sufficient; and he may afterwards take it occasionally, increasing or diminishing the quantity according to its operation. He ought then to take the Peruvian-bark, with stomachic bitters, and some of the preparations of iron, as before directed. But the cure is chiefly to be effected by exercise on horseback, with a well-regulated diet, agreeable company, and amusements. The depressing passions in particular ought to be avoided; and a glass of generous wine, if it agrees with the stomach, may be taken at any time when the person feels himself languid. On such occasions, he may also take thirty or forty drops of the following mixture in a table-spoonful of water. Take of the tincture of asafœtida, castor, compound spirit of lavender, and dulcified spirit of nitre, each two drachms. Mix them together.

When the disorder proceeds from a suppression of either of the fluxes above mentioned, these evacuations ought to be restored, or others substituted in their room, such as issues, setons, &c. But nothing has so immediate good effects in this case as bleeding.

Persons afflicted with low spirits are apt to seek for a mitigation of their complaint in the solace of wine, or strong liquors; but in this resource they should be careful never to exceed the bounds of temperance: for though the moderate use of wine, and even of spirituous liquor occasionally, may prove beneficial, the abuse of either, and especially the latter, is pernicious, and augments the disease.

CHAP. XXIV.

Palsy.

THIS is a deprivation or diminution of sense or motion, or of both, in one or more parts of the body; and is more or less dangerous, according to the importance of the part affected. When one side is affected, it is called *hemiplegia*; and when it seizes all the parts below the head, or the lower half of the body, it is termed *paraplegia*. If confined to any particular limb, or muscle, it is a palsy of that part. In the *hemiplegia*, convulsions often take place in the sound side, with the cynic spasm or involuntary laughter, and other distortions of the face. Sometimes the whole paralytic part of the body becomes livid, or even mortifies before the patient's death; and sometimes the paralytic parts gradually decay and shrivel up, so as to become much less than before.

Many perceptible varieties occur in the form of this disease. Sometimes there is a total loss of sense, while motion remains entire: in others a total loss of motion, with very slight or even no affection of sense; and, in some cases, while a total loss of motion takes place in one side, a total loss of sense has been observed in the other; but the case that most commonly occurs, is a loss of voluntary motion, while feeling remains.

CAUSES.—The immediate cause of a palsy is any that prevents the uniform exertion of the nervous power upon a particular part of the body. The occasional and predisposing causes are of various kinds; such as intemperance; suppressed evacuations; a retrocession of external eruptions; scorbutic acrimony; sudden fear; pressure upon the brain or nerves; and wounds of those parts; spasmodic colic; old age, and debility of the nervous system, &c.

When the part affected feels cold, is insensible, or wastes away, or when the faculties of the mind begin to fail, there is little hope of recovery; though death does not immediately follow even the most severe paralytic attacks. In a *hemiplegia*, it is not uncommon for the patient to live several years; and even in the *paraplegia*, if death do not ensue within two or three weeks, it may not take place for a considerable time. It is a favourable sign when the person feels a slight degree of painful itchiness in the part affected; and if a fever should come on, there is a chance of its curing the palsy. When the sense of feeling remains, there is much more room to hope for a cure than when this as well as the power of motion is extinct. Convulsions supervening on a palsy are a fatal sign.

Cure.—If the person be young, and of a full habit of body, the palsy must be treated in the same manner as in the sanguineous apoplexy, by bleeding, blistering, sharp clysters, or purgative medicines. But when the disease comes on in old age, and proceeds from relaxation or debility, it will be necessary to pursue a quite contrary method of cure. The diet must be warm and strengthening, seasoned with spices or aromatic ingredients; and the drink must be generous wine, mustard-whey, or brandy and water. The first thing to be given is a laxative clyster, and afterwards a vomit, which should be repeated occasionally. Volatile and stimulating medicines are then to be administered. Take of ammonia prepared six grains; tincture of cardamoms one drachm; pennyroyal-water an ounce and a half; syrup of orange peel one drachm. Mix them for a draught to be taken every six hours.

Friction on the parts affected with a flesh-brush or warm cloths should be employed, as well as blistering plasters and the volatile liniment. Electricity likewise is beneficial, moderately applied by a proper apparatus, and long persisted in.

The arnica montana, or German leopard-bane, has been highly extolled in the cure of this disease by some foreign writers: but the trials made of it in this country have not proved equally successful. The leaves of the rhus toxicodendron have been found very efficacious in cases of palsy, and extreme debility, and even in the palsy of the lower extremities accompanied with distortion of the spine, but without caries. The powder of the dried leaves has been given from a third of a grain three times a day to one drachm; but as it is a deleterious medicine, and different parcels of the powder differ in their strength, great caution is necessary in its administration.

In a palsy of the tongue, the patient should frequently gargle his mouth with brandy and mustard; or hold in it a bit of sugar wet with the compound spirit of lavender, or the root of pellitory of Spain. In this case, the root of wild valerian is likewise of great advantage, taken either in powder or infusion: a table-spoonful of mustard-seed taken frequently is of great service.

A palsy of the lower extremities, arising from caries of the spine, and accompanied with a distortion of it, has been frequently cured by applying a large caustic on each side of the protuberant vertebræ, and keeping the ulcers open as issues. The eschar should be narrow, but long, according to the extent of the curve, just above which the upper end should reach; but perhaps setons are still preferable. Calcareous phosphat, or calcined bones, has of late years been recommended as a powerful auxiliary to this treatment.

When a palsy succeeds the rheumatism, scurvy, scrofula, lues venerea, or nervous colic, it will be necessary, in the cure, to advert to the primary diseases, and administer such medicines as are respectively proper in those different complaints.

Paralytic shakings or tremblings of the hands, or other parts, frequently follow upon hard drinking, or any other excesses in the non-naturals, and may, in general, be treated as a partial palsy, omitting evacuations, which would in these cases be injurious.

The medicinal waters both of Bath and Bristol, under proper regulations, are advisable in these circumstances.

A person who labours under a paralytic complaint should guard against cold and damp air; plethora; wear flannel next his skin; and regularly take such exercise as he is able to bear.

CHAP. XXV.

The Colic.

THIS complaint of the bowels is distinguished into several kinds, according to the different causes from which it proceeds. We shall consider them in the following order, viz. the flatulent, or windy; the bilious; the hysteric; and the nervous.

Of the Windy Colic.

The most common of these is the windy colic, in which there is a wandering pain in the bowels, with rumblings, which abate on the expulsion of air, either upwards or downwards. The pain is not increased by pressure; the thirst not great; and the pulse but varied little from its natural standard.

This kind of colic is commonly occasioned by unripe fruits, meats of hard digestion, flatulent vegetables, fermenting liquors, and other substances. It may likewise proceed from obstructed perspiration, and is most frequent with persons of a delicate habit.

CURE.—When the disorder is occasioned by any thing of a flatulent nature, there is not a better remedy, on the first appearance of the symptoms, than a glass of brandy, or any other good spirits; and, indeed, it is the only colic in which any thing of a heating kind can be given with safety. Neither are these to be used unless at the very beginning of the complaint, and when there are no symptoms of inflammation. The patient, in the mean time, ought to keep his feet warm by the application of bricks, or whatever else may answer the purpose; and warm cloths should be applied to his stomach and bowels.

Several kinds of food, such as honey, eggs, &c. are apt to produce colics in some constitutions. The readiest method of curing these is to drink plentifully of diluting liquors, as weak posset, water-gruel, toast and water, &c.

When a colic proceeds from excess and indigestion, it commonly goes off by spontaneous evacuation, which ought to be promoted by drinking plentifully of the liquids last mentioned. A dose of some gentle purge should afterwards be taken, to clear the bowels of any dregs that may remain.

If the complaint has been occasioned by wet feet, or catching cold, the best remedy is bathing the feet and legs in warm water, which ought to be done immediately. The person should then endeavour to promote perspiration by drinking warm diluting liquors, such as weak wine-whey, or water-gruel, with a small quantity of rum or brandy in it.

Of the Bilious Colic.

This species of colic prevails most in summer. It is attended with acute pain, sometimes fixed about the region of the navel, sometimes all over the abdomen, and at other times shifting from one part to another. There is likewise a pulsation, and sense of cold in the belly. The patient feels a bitter taste in the mouth, with great heat; and is troubled with a vomiting of yellow or greenish bile. He makes little or no urine, is generally costive. The disorder is accompanied with thirst and fever, and frequently likewise with a hoarseness.

CURE.—If the pulse be full and frequent, it will be proper to bleed, and give an emetic; the patient drinking plentifully of an infusion of chamomile, or the like, to work it off. Afterwards give opening emollient clysters, and purgatives. The former may consist of milk and water, with a table-spoonful of salt and moist sugar, and two table-spoonfuls of sweet oil, or some fresh butter. As a purgative, give two table-spoonfuls of castor-oil, with fifteen drops of laudanum. Should it not operate in about an hour and a half, let the patient take one spoonful more of the oil, with a proportionable quantity of laudanum.

Vomiting is frequently a very urgent symptom in this disorder, and no less difficult to restrain. The patient should in this case drink mint-tea, or water in which some toasted bread is boiled. If these should not prove effectual, recourse may be had to the saline draught, with a few drops of laudanum in it, and repeated as occasion may require.

At the same time, some Venice treacle, spread upon leather, may be applied to the pit of the stomach; and clysters, either with the same, or forty drops of laudanum, may be given, and likewise frequently repeated. In this case columbo-root has been found particularly serviceable. A scruple, or upwards, may be given in powder, in a cup of mint-tea, or any other vehicle.

The patient's belly, in the mean time, should be frequently fomented with cloths dipped in warm water; and these not proving successful, he ought to be immersed up to the breast in the warm bath, and the opium to be repeated.

Of the Hysteric Colic.

This species of colic bears a great resemblance to the preceding, in respect both of pain and vomiting; but the pain is about the region of the stomach, and the discharge generally of a greenish colour. Women of a lax and gross habit, and of an irritable disposition, are chiefly subject to this disorder. It is accompanied with great lowness of spirits, and difficulty of breathing, which are the characteristic symptoms of the disease. The pain goes off in a day or two, and frequently returns in a few weeks with equal violence. Sometimes it is accompanied with the jaundice; but this, for the most part, goes off spontaneously in a few days.

In this case both bleeding and purging are to be avoided, unless a full habit of body, or costiveness, should require any of these evacuations; and, with regard to the latter, it will be more advisable to employ clysters than purgatives. The stomach, however, should be cleared by drinking warm water, or chamomile tea; after which, twenty, thirty, or thirty-five grains of opiate confection may be given; or, in place of it, fifteen, twenty, or twenty-five drops of laudanum, in a glass of cinnamon-water. Either of these may be repeated two or three times a day till the disorder abates; and the compound plaster of labdanum, spread upon soft leather, may, in the mean time, be applied to the region of the stomach.

When the complaint has ceased, the patient's strength ought to be recruited with the Peruvian bark, bitters, the preparations of iron, air, and exercise.

This disorder in men is named the hypochondriac colic, and should be treated in the same manner.

Of the Nervous or Painters' Colic.

This disease prevails much among those who are employed in working about lead; and is likewise common in Devonshire, in particular; occasioned, as is supposed, by the drinking of cyder impregnated with that mineral, from the lead used for fastening the nails in the vats. It is, therefore, otherwise called the Devonshire colic. The colic of Poictou and the dry belly-ache in the West Indies, are of the same nature.

SYMPTOMS.—This disorder begins with a sense of weight or pain at the pit of the stomach, which extends itself down, with griping pains, to the bowels, attended with loss of appetite, yellowness in the countenance, a slight nausea, and costiveness. Soon after the stomach is distended, as with wind, and there are frequent retchings to vomit, without bringing up any thing but small quantities of bile and phlegm. Sometimes the intestines seem to the patient as if drawn to the spine; at other times they are drawn into hard lumps, which are plainly perceptible to the hand. In either case the complaint is attended with convulsive spasms; and the pain continues without remission for several hours together. The pulse is generally low, though sometimes a little quickened by the violence of the pain. The patient discovers a lowness of spirits. The extremities are often cold, and sometimes the violence of the pain occasions cold clammy sweats and fainting. The disease is often tedious, especially if improperly treated, insomuch that the patient will continue in this miserable state for three weeks or a month: instances have been known of its continuing for six months. In this case the pains at last become intolerable, and the patient's breath acquires a strong fœtid smell. At length, when the pain in the bowels begins to abate, it is succeeded by a pain in the shoulder-joint, and adjoining muscles, with an unusual sensation and tingling along the spine of the back. This soon extends itself to the nerves of the arm and legs, which become weak; and the weakness increasing, the limbs become paralytic, with a total loss of motion, though a small degree of feeling remain. Sometimes the brain becomes affected, and the nervous system is irritated to such a degree as to produce general convulsions, which are often followed by death. At other times, the peristaltic or natural motion of the intestines is inverted, and the true iliac passion is produced, which also proves fatal in a short time. Sometimes the paralytic affection of the extremities goes off, and the pain of the bowels returns with its former violence; and on the cessation of the pain in the intestines, the extremities again become paralytic, and in this manner the pain and palsy will alternate for a very long time.

CURE.—This disorder is so nearly allied to an inflammation of the bowels, in which it often terminates, that the same method of cure has generally been directed in both. But it is now the established practice to begin by cleansing the stomach with chamomile tea; after which, the body is to be opened by mild purgatives, assisted by soft oily clysters. The best purgative in this case is castor oil, which may also be added to the clysters; and, to mitigate the violence of the pain, fifteen or twenty drops of laudanum may be joined with the former, and double the quantity with the latter. In the mean time, the back and limbs should be strongly rubbed with the liniment of ammonia, camphorated spirits, and other hot liniments.

Dr. Percival has found alum very efficacious in this disease. It was given in the quantity of fifteen grains every fourth, fifth, or sixth hour. But a yet more powerful remedy is blue vitriol, or vitriol of copper. Eight grains of it being dissolved in half a pint of water, two or three tablespoonfuls are to be taken fasting for nine successive mornings. For the first four or five days this medicine discharges much vitiated bile both ways; but the evacuation of this humour lessens by degrees. During the use of this remedy, the patient ought to live upon broth made of lean meat, gruel, or panada; but about the seventh or eighth day he may be allowed bread and boiled chicken. The most useful medicine in this disease is calomel, in doses of eight or ten grains, every twelve hours, with a grain of opium; and twice that quantity in clysters of castor-oil.

When the disease is over, the patient should be strengthened with the Peruvian bark and bitters, use a nourishing diet, and take exercise on horseback. If the disease ends in a palsy, great benefit is generally found from the use of Bath waters.

CHAP. XXVI.

Asthma.

THIS disorder, which consists of a difficulty of breathing, is most frequently in the decline of life, and more common to men than to women. It is distinguished into two kinds, namely the moist and dry, or humoural and nervous; both which, however, appear to partake of a spasmodic nature.

The paroxysms or fits generally commence in the nighttime, with a sense of straitness of the chest, difficulty of respiration, and a cough. The patient cannot lie in a horizontal posture, and, if seized in that position, is obliged immediately to become erect. The difficulty of breathing increases, accompanied with a violent wheezing; and after continuing some hours, an expectoration of mucus or phlegm takes place, and the symptoms abate. They still prevail, however, in a greater or less degree in the day-time, according to the weather and other circumstances; but the fit returns next night, and often many nights successively. There is frequently little variation of the pulse; the urine at first is pale, but after a remission it commonly becomes high coloured, and deposits a sediment. The complaint is for the most part attended with flatulence, and symptoms of indigestion.

Causes.—This disorder may proceed from any cause that obstructs the circulation of the blood through the lungs; such as a stoppage of customary evacuations; the sudden retrocession of the gout, or striking in of eruptions; violent exercise; the fumes of metals or minerals received into the lungs, &c. Sometimes the disorder is hereditary, or depends on a bad formation of the breast. In some persons the fits are brought on by external heat, in others by cold.

This disease often occasions a consumption of the lungs in young persons: when it continues a long time, it frequently terminates in a dropsy of the breast, or brings on an aneurism of the heart, or great vessels near it. A tremulous respiration, a palsy of the arms, and a diminution of the urinary secretion, are bad symptoms.

Cure.—During a violent fit of this disease bleeding is proper, unless in cases of extreme weakness, or old age. A purging clyster, with a drachm of asafœtida dissolved in it, should be immediately given, and, if necessary, repeated two or three times, the patient being generally costive. His feet and legs should be put into warm water, and afterwards well rubbed with a dry cloth. If the violence of the symptoms should not speedily abate, it will be proper to apply a blistering plaster to the neck and breast.

To give a vomit in the height of a fit is not advisable, as it would increase the accumulation of the blood in the vessels of the head; but vomiting will often prevent a fit of the asthma, especially if the stomach happen to be foul. And asthmatic persons have generally some warning of the attack, from a languor, loss of appetite, oppression, and swelling of the stomach from flatulence, which precede the fit. Sometimes a vomit has good effect, even during the paroxysm, and snatches the patient as it were from the jaws of death; but this will be more safe after other evacuations have been premised.

Coffee is recommended by Sir John Floyer, as the best abater of an asthmatic fit that he had seen. It ought to be of the best Mocco, newly roasted, and made very strong immediately after grinding it. He commonly ordered an ounce for one dish; which is to be repeated fresh after the interval of a quarter or half an hour, and taken without milk or sugar.

In the moist asthma, the patient ought to use such medicines as promote expectoration; such as gum-ammoniac, squills, and the like. Both in the moist and dry asthma, the following pills will be found of great use. Take of gum-ammoniac, powdered, and asafœtida, each one drachm; balsamic syrup enough to make them into twenty-four pills; of which three to be taken twice a-day. Or take an equal quantity of oxymel of squills, and cinnamon-water: mix them, and let the patient take a table-spoonful of the mixture three or four times a day.

The dry or nervous asthma is best relieved by antispasmodics and opiates; and sometimes it is necessary to give very large doses of the latter. The antispasmodics most used are, asafœtida, castor, and valerian. A tea-spoonful of the following mixture may be taken with advantage two or three times a-day. Take of the tincture of soot one ounce; tincture of castor, and camphorated tincture of opium, each half an ounce: mix them. Two table-spoonfuls of vinegar, with an equal quantity of cold water, is often found effectual in relieving the fit.

To obtain permanent relief in the dry asthma nothing is found to answer better than the powder of ipecacuanha in small doses. Three, five, eight, or ten grains, according to the strength and constitution of the patient, given every other day, have produced the happiest effects; acting sometimes as an evacuant, pumping up the viscid phlegm; at others as an antispasmodic or sedative, allaying the irritation of the nerves. The Peruvian bark, in this case, by strengthening the habit, is likewise found of great advantage. In both kinds of asthma, issues are highly beneficial, and the use of them should never be discontinued.

When the asthma depends on some other disease, regard must always be had to the primary complaint. Thus in the arthritic asthma, or that which proceeds from a gouty habit, sinapisms or warm poultices of mustard seed powdered, and vinegar, must be appied to the feet, with blisters to the legs or ancles, to bring on, if possible, a regular fit of the gout. Blisters will also be necessary when the disorder is occasioned by the striking in of any eruption; and when it proceeds from the dregs of an ague, recourse must be had to the Peruvian bark.

People who are subject to the asthma ought to avoid every thing in diet that is hard of digestion, or flatulent; and they should use daily exercise, particularly riding on horseback.

CHAP. XXVII.

Jaundice.

THE jaundice proceeds from an absorption of the bile into the blood, which it renders of a vitiated quality. The disease begins with general lassitude, and an obtuse pain in the region of the liver, accompanied with weight and oppression. The skin is dry, and affected with a troublesome itching. The white of the eyes becomes yellow; and in a little time this colour is diffused over the body. The person feels a bitter taste in his mouth. The stools are of a whitish or clay colour, and the urine so yellow, or rather reddish, as to communicate the same colour to linen. The disease is generally attended with costiveness, and sometimes a degree of fever.

Causes.—The immediate cause of jaundice is an obstruction to the passage of the bile into the intestines; and this may be effected in various ways. Catching cold, or the stoppage of customary evacuations, may produce the disease; as may likewise the bilious or hysteric colic; violent passions; and the bites of some poisonous animals. It is sometimes the consequence of obstinate agues, when prematurely stopped by astringent medicines; and is frequently incident to pregnant women. It may also be occasioned by strong purgatives. It may likewise be occasioned by gall-stones, or viscid bile obstructing the gall duct, or by the compression of tumors in the neighbouring parts.

As the jaundice may arise from many different causes, some of which cannot be discovered during the patient's life, the issue of the disease cannot always be judged of with certainty. The only cases which admit of a cure are those depending upon biliary concretions, or obstructions of the biliary ducts by viscid bile, or spasms of the duodenum; for the concretions are seldom of such a size that the ducts will not let them pass through, though frequently not without great pain. The coming on of gentle looseness, attended with bilious stools, and a cessation of the pain, are signs of the disease being cured.

Cure.—In the beginning of the disorder, if the patient be young, of a full habit of body, the degree of pain, and other symptoms, give reason to suspect an inflammation of the liver, it will be necessary to bleed. A warm fomentation, made with chamomile-flowers, should then be applied to the region of the liver; or the patient may sit in the warm bath to the breast. The body should be kept open with a mixture of Castile-soap, the powder of rhubarb, and tartarised kali; which, with the addition of simple syrup, may be made into pills of a moderate size, and two, three, or more of them taken twice a-day, according to their effect on the bowels.

When the disease proceeds from any biliary concretion, or viscid bile, obstructing the gall-duct, no remedy is better adapted than a vomit of ipecacuanha, which may be repeated once or twice at the interval of two or three days. If the pain, however, be violent, it will be proper to allay that symptom by opium before the vomit is administered.

If the jaundice be owing to scirrhosity or fixed obstructions in the liver, which may generally be known from a weight in that part, of long continuance, and a darkness of the complexion, little more can be done than to palliate the symptoms. This is best accomplished by small doses of calomel and diuretics, which evacuate the bilious matter, and obviate the bad consequences that would ensue from its being retained in the blood. But even this artificial stimulus is by no means equal to the common evacuation by stool; nor can any attempt to supply the want of bile in the intestines, by bitters and other stomachics, prove sufficient for accomplishing the process of digestion, and exciting the action of the bowels.

On all occasions, when the pain is violent, recourse must be had to opiates; and if very high coloured urine, or a discharge of blood from any part, show that the blood has acquired a tendency to dissolution, recourse should be had to the Peruvian bark, and other antiseptic medicines.

During the continuance of the disease the diet should be light, and chiefly of the vegetable kind. Many have been cured by living almost entirely for some days on raw eggs.

The patient ought to take daily exercise, particularly on horseback, where the motion increases not the pain. Mineral waters, especially those of Harrowgate or Bath, are found beneficial. After the cessation of the disorder, there can be no security against its return, when occasioned by biliary concretions in the gall-bladder; because fresh concretions may be formed; and, accordingly, some constitutions are liable to frequent returns of the complaint. The best preventive, however, is riding on horseback; which, by shaking the bowels, tends to dislodge those concretions before they have acquired such a size as to render their passage through the duct an object of difficulty.

CHAP. XXVIII.

Dropsy.

A DROPSY is a præternatural swelling of the whole body, or some part of it, occasioned by a collection of watery humour, from a deficiency of urine or perspiration. It is differently denominated, according to the part affected. When the water is lodged under the skin, it receives the name of *anasarca*, or *leucophlegmatia*; when in the breast, *hydrops pectoris*, or *hydrothorax*: when in the brain, *hydrocephalus*; and so of other parts: but the most common form of the disease is the *ascites*, or dropsy of the belly. Of this there are two kinds; one in which the water floats round the intestines; and another, in which it is *saccated*, or contained in cysts or bags.

Causes.—The dropsy is often the consequence of a long continued jaundice, and frequently of a sedentary life. It may likewise proceed from an abuse of strong liquors, which, by first affecting the liver, produce in the end this disease. Excessive evacuations, such as frequent and copious bleedings, strong purgatives often repeated, salivations, &c. may give rise to it; it may also be occasioned by the stoppage of customary evacuations, such as the *menses*, hæmorrhoids, &c. The disease may likewise be incurred by living in a damp situation, or using a crude watery diet; and sometimes a disposition to it is hereditary.

Symptoms.—The *anasarca* commonly begins with a swelling of the feet and ancles towards night, which for some time disappears in the morning, after lying in bed. In the evening, the part, when pressed with the finger, will pit, and then rise slowly to its former fulness. The swelling gradually ascends, and spreads over the trunk of the body, the arms, and the head. The body is generally bound, the perspiration is greatly obstructed, and the urine in small quantity. The patient complains much of thirst, and has a difficulty of breathing, accompanied with a troublesome cough, and a slow wasting fever.

The *ascites* is known by the swelling of the abdomen, and may be distinguished from a tympany by the weight as well as the fluctuation of water; which will be felt by striking the belly on one side, and laying the palm of the hand on the opposite.

When the dropsy arises from a scirrhus of the liver, or any other of the bowels, the event is always to be dreaded; as is the case likewise when it proceeds from disorders of the lungs. Indeed an *ascites* seldom admits of a radical cure; and the only resource, on some occasions, is to procure a temporary relief by tapping. When the disease, however, comes on suddenly, without any previous illness, and the patient is young, and apparently of a good constitution, there is reason to hope that an early use of medicine will be attended with success.

CURE.—Towards effecting a cure, the patient must use a stimulating diet, such as roasted meats of easy digestion, and warm pungent vegetables; in which class are garlic, mustard, raw onions, horse-radish, &c. The disease has sometimes been cured by living on hard biscuit only, and rigidly abstaining from all drink. But it is now found that this abstinence is not necessary, and that a liquid diet may be used with success. For this discovery we are indebted to the industrious investigation of Dr. Milman, who condemns in the strongest terms the practice of giving dropsical patients only dry, hard, and indigestible aliments. These, he observes, would oppress the stomach of the most healthy; and how much more must they do so to those who are already debilitated by labouring under a tedious disorder? He affirms, that unless plenty of diluting drink be given, the most powerful diuretics can have no effect; and this assertion he corroborates by an account of his practice in the Middlesex-hospital.

According to the doctor's narrative, if the patient be not very much debilitated, he is sometimes treated with the purging waters, and a dose of jalap and calomel alternately. On the intermediate days he gets a saline mixture, with forty or sixty drops of the vinegar of squills every sixth hour; drinking with the purgatives oat-gruel and some thin broths. The doctor, that he might better ascertain what share the liquids given along with the medicines had in producing a copious flow of urine, sometimes gave the medicines in the beginning of the disease without allowing any drink; but though the swellings were usually diminished a little by the purgatives, the urine still continued scanty, and the patients were greatly weakened. Fearing, therefore, lest by following this course, the strength of the sick might be too much reduced, he then began his course of diuretic medicines, giving large quantities of barley-water, with a little sal diureticus or acetated kali; by which means, sometimes in the space of forty-eight hours after the course was begun, the urine flowed out in very large quantity: but as the saline drinks are very disagreeable to the taste, a drink was composed purposely for hydropic persons, of half an ounce of cream of tartar dissolved in two pounds of barley-water, made agreeably sweet with syrup, adding one or two ounces of French brandy.

The drink ought, at least, not to be of the watery kind, or, if such, should be medicated by some stimulating ingredient. Mustard-whey, in which some broom-ashes are dissolved, or broom-tops boiled, may be taken in a moderate quantity. For this purpose, the patient may also use Rhenish-wine, or Spa-water, impregnated with the same or a similar ingredient. The thirst may likewise be allayed by acids, such as the juice of lemons, oranges, &c.

It is of great importance in a dropsy that the patient take daily exercise, which promotes the absorption of the serous or watery humours, and increases the excretions both by perspiration and urine. Walking, as it affords a general exertion of the muscles, is preferable to any other kind, and will tend more than any other to retard the increase of the disease; but if the patient's strength will not admit of that expedient, he may ride on horseback or in a carriage. Should he live in a damp situation, he ought to change the place of his residence, and betake himself, if possible, to a warmer climate. At all events, the air of his apartment should be warm and dry; and, for promoting perspiration, he ought to wear flannel next to his skin.

When the patient is under forty years of age, of a good constitution, and the disease has come on suddenly, the cure of an *ascites* may commence with vomits and purgatives, frequently and alternately repeated, as being the most speedy and effectual means of evacuating the collection of watery humours. The vomit may consist of half a drachm of ipecacuanha for an adult, or half an ounce of oxymel of squills; and an infusion of chamomile-flowers should be drunk to promote their operation. Half a drachm of the powder of jalap, with five or six grains of calomel, will form a suitable purgative, and may be taken in the morning, made up into a bolus with some syrup. A grain or two of elaterium will commonly answer the purpose of an emetic and purgative of great efficacy in dropsy. In this case, as well as in the vomiting, nothing considerable should be drunk.

On the days when the patient neither vomits nor purges, he ought to take such medicines as promote either urine or perspiration, combined with those of a strengthening kind. For promoting the discharge of urine, take an ounce of juniper berries, and half an ounce of the tops of broom: boil them for a few minutes in a pint of water, and in the strained liquor infuse half an ounce of mustard-seed; strain again, and dissolve in the liquor two drachms of the crystals of tartar. Of this the patient may take four table-spoonfuls every three or four hours in the day.

To excite perspiration the patient may use at night the following draught: Take of the waters of spearmint, peppermint, and acetated ammonia, each half an ounce; compound spirit of lavender thirty drops; tincture of opium fifteen or twenty drops. Mix them.

During this course, the patient may take twice a-day a glass of an infusion of Peruvian bark, rust of iron, and orange-peel, in strong white wine.

With regard to diuretics in general, it is to be remarked, that we cannot depend with certainty upon the operation of any of them. In particular constitutions, and at particular times, one will be found to succeed, after another, though commonly of much greater power, has been tried in vain. Various diuretics therefore are often used in succession. Recourse is particularly often had to dandelion and squills; the latter of which, especially when combined with calomel, is often found to be a very powerful diuretic. The fox-glove also is strongly recommended for the same purpose; but it is rough in its operation, and must therefore be given in exceeding small doses at first. An infusion of tobacco is remarkably efficacious in this respect; and smoking has been found of great benefit. A table-spoonful of the juice of leeks, taken twice a-day, has been known to perform a cure.

Both in the anasarca and ascites, frictions are of great advantage. They ought to be used two or three times a-day for several minutes, and if with camphorated liniment they will be more efficacious.

When the disorder arises from the too copious use of weak liquids, or obstructed perspiration, good effects may be expected from sudorific medicines. If too free an use of strong liquors has been the cause, riding on horseback and the use of wine, or rather geneva diluted with water, in moderate quantity, will be serviceable. If the disorder has come on after great loss of blood, or from tedious fevers, purgatives ought not to be used too freely, but chalybeates, the Peruvian bark, and bitters, should be the principal resource. Some hospital-physicians in the metropolis are very successful in the treatment of ascites, &c. by directing mercurial friction to be employed till the mouth begins to be affected, and then commencing a course of diuretics and tonics, such as have been above recommended.

In endeavouring to remove the *anasarca,* it is a common resource to scarify the feet and legs, and by that means drain off the water: but in performing this operation, the incision must be made no deeper than to penetrate the skin; and care must be taken, by spirituous fomentations and proper digestives, to prevent a mortification of the part.

When an *ascites* does not yield to purgative and diuretic medicines, recourse must be had to tapping. But this ought to be performed before the texture of the bowels has suffered by a long immersion in the water. If the bowels be sound, this expedient generally proves successful in effecting a radical cure; but if they be diseased, it can act only as a palliative remedy.

CHAP. XXIX.

Tympany.

THIS disorder is a flatulent distention of the belly, and is distinguished into two species, namely, the intestinal, and abdominal. In the former the wind is pent up in the intestinal canal, chiefly the colon; and, in the latter, between the intestines and the membrane which lines the muscles of the belly. In the intestinal tympany the tumor of the belly is often unequal, and there is a frequent explosion of wind, alleviating both the tension and pain; but in the other species the tumefaction is more equal, and the emission of wind, which is less frequent, affords not such evident relief. The disorder is chiefly incident to those who have been long troubled with flatulencies in the stomach and intestines.

CAUSES.—The abdominal tympany is generally the consequence of an *ascites,* and morbid affections of the liver; but the other may be produced by a variety of causes. It is frequently occasioned by the unseasonable use of opiates in the dysentery, or of the Peruvian bark in intermittent fevers. It may likewise be occasioned by a suppression of the menstrual or hæmorrhoïdal flux; and is sometimes the consequence of an abortion.

CURE.—The patient ought to abstain from all flatulent vegetables, and fermented liquors. If no fever attends, the best diet is light animal food, and the most suitable drink geneva diluted with water.

If the disorder be accompanied with fever, and a full pulse, it will be proper to bleed. The body should be kept open by gentle laxatives, joined with aromatics; but strong purgatives must be avoided, as well as carminatives without laxatives. Take of rhubarb and ginger, powdered, each two drachms: mix, and divide them into twelve doses; of which let the patient take one twice a-day in a cup of chamomile-tea.

Clysters with infusion of tobacco have in this case been used with great benefit.

The belly should be frequently rubbed, and swathed with flannel; and the patient ought to use exercise, particularly riding on horseback.

When the tumor has begun to abate, the cure will be expedited, and the return of the complaint prevented, by a course of strengthening medicines, consisting of Peruvian bark, some of the preparations of iron, bitters, and aromatics, such as have been frequently mentioned.

CHAP. XXX.

Scurvy.

THE term *scurvy* has been indiscriminately applied to almost every kind of cutaneous eruption; but the disease here meant is the true sea-scurvy, which, though frequent in many places at land, attains to its greatest degree of virulence among sailors, on long voyages, when exposed to the want of fresh meat and vegetables. At land, it prevails in cold countries, especially those where the air is moist, and the soil marshy or damp.

SYMPTOMS.—The first symptoms of this disease are heaviness, lassitude, and difficulty of breathing, particularly after motion. The face becomes sallow and bloated, the breath offensive, the gums spongy and putrid, and are apt to bleed on the slightest pressure. Blood frequently issues likewise from the nose, and sometimes from other parts. The patient feels commonly a dejection of spirits. The legs often swell into protuberances in different parts, and yellow, purple, or livid spots, resembling bruise-marks, and flea-bites, appear upon the skin. The catching of the breath on motion, with the loss of strength, dejection of spirits, and putrid gums, are regarded as the distinguishing and characteristic symptoms of the disease.

CAUSES.—The scurvy is frequently the effect of a sedentary or inactive life; cold, moist air; putrid, salted, or smoke-dried provisions, and aliments hard of digestion. The depressing passions have a powerful influence in producing it; and it may likewise proceed from a suppression of customary evacuations. Whatever vitiates the fluids either by introducing unwholesome juices or bad air into the body, and relaxes the solids directly or indirectly; all tend to produce this disease, which is likewise sometimes hereditary.

CURE.—The cure of the scurvy depends upon opposing the specific cause which has produced it. If it has arisen from cold, damp, or unwholesome air, it will be proper that the patient remove to a more healthy situation. If a sedentary life, and the indulgence of melancholy, be supposed to have brought on the disease, it can only be eradicated by means of exercise and cheerfulness.

When the scorbutic taint has been contracted by the long use of salted or putrid provisions, the most obvious method of curing it is by adopting a course of diet consisting chiefly of fresh vegetables, and sallads made of water-cresses, scurvy-grass, brook-lime, &c. The patient ought likewise to eat freely of acescent fruits, such as apples, oranges, *lemons,* cherries, and the like; and the less he is confined to animal food, for some time, it will be so much the better. But if his strength be greatly reduced, and a diet consisting entirely of vegetables disagree with the stomach, he may be indulged in some fresh animal food of the lighter kinds, always joining with it a sufficient quantity of vegetables; and when these cannot be obtained fresh, they may be used in the pickled or preserved state. It will likewise be proper to sharpen all the patient's food and drink with *lemon-juice* or its concrete acid, vinegar, or some other acid, such as cream of tartar, spirit of sea-salt, or elixir of vitriol.

Both in the land and sea-scurvy, the use of milk is highly beneficial, when it has not the effect of rendering the patient costive: but this inconvenience may be obviated by taking occasionally a little cream of tartar, or a drachm of sal polychrest dissolved in a sufficient quantity of water. Nothing more, however, is required, than to obviate costiveness: for large evacuations are always hurtful in this disease.

An excellent drink, in the scurvy, is whey, or buttermilk. In defect of these, the patient may use sound cyder, or spruce-beer. Great benefit has been received from the use of wort, which is particularly convenient at sea, as malt will keep sound during the longest voyage.

A moderate use of wine is serviceable in the scurvy, both as a strengthener and antiseptic; and the patient ought to take such exercise as he is able to bear without fatigue, which should always be avoided.

With regard to particular symptoms, when the gums are become soft, and liable to bleed on the least touch, the mouth ought to be frequently washed with the decoction of the Peruvian bark, or an infusion of red roses, with which a little of the tincture of myrrh is joined. In the case of swelled and indurated or hardened limbs, with stiffened joints, the parts ought to be fomented with warm vinegar, and relaxed by vapour-baths, confining the vapour to the parts by means of blankets spread over them. For ulcers of the legs, when such exist, the most proper application is likewise the decoction of Peruvian bark; avoiding all greasy and oily liniments, which are in this case injurious.

CHAP. XXXI.

Gout.

THE gout, though often a hereditary disease, may be acquired by various causes, and is chiefly incident to those who take little exercise, and use a full diet of animal food. It is more frequent with men than women, seizes mostly such as have large heads, and are of a corpulent habit. It seldom attacks persons employed in constant bodily labour, or those who live much on vegetable aliment. In constitutions strongly inclined to it by hereditary disposition, it sometimes makes its appearance early in life, but does not commonly attack men before the age of thirty-five, and generally at a later period.

Besides a hereditary disposition, and the two other causes above mentioned, the disorder may be brought on by a deficiency of the customary discharges; too free an use of acidulated liquors; severe application of mind; grief; vexation; night-watching, &c.

SYMPTOMS.—A fit of the gout sometimes comes on suddenly, but for the most part it is preceded by particular signs of its approach. These are generally such as accompany a relaxed state of the stomach: viz. indigestion, belching of wind, a slight head-ache, and drowsiness. The appetite is diminished, and the body is affected with a degree of languor. In some there is an unusual coldness of the feet and legs, accompanied with cramps, and frequently a numbness, alternating with a sense of prickling along the whole of the lower extremities.

These symptoms take place for several days, sometimes for a week or two, before the fit comes on; but, commonly, upon the day immediately preceding the fit the appetite becomes keener than usual.

SYMPTOMS.—Most commonly a paroxysm or fit of the gout comes on in the spring, and sooner or later according to the period at which the vernal heat succeeds the winter's cold, and according as the body may happen to be exposed to the changes of temperature. The attack is sometimes first felt in the evening, but more frequently about two or three o'clock in the morning. The fit begins with a pain affecting one foot, generally in the ball or first joint of the great toe, but sometimes in other parts of the foot. This is usually accompanied with more or less of a shivering; which abates by degrees as the pain increases, and is succeeded by a hot stage subsequently of the same duration with the pain. From the first attack, the pain uniformly increases, attended with great restlessness of the whole body till the midnight following, after which it gradually declines; and a gentle sweat coming on, the patient falls into a sleep. In the morning, he finds the part affected with some redness and swelling, which, after continuing some days, gradually abate. The patient, however, is not yet entirely relieved from the paroxysm. For some days, he experiences every evening a return of pain and feverishness, which continue for more or less violence till morning. After this course of variation for several days, the disorder generally ceases, not to return till after a considerable interval.

At the beginning of the complaint, the returns of it are sometimes only once in three or four years; but afterwards the intervals becoming shorter, at length the attacks are annual, and sometimes so frequent in the course of a year, that the patient is scarcely ever free from some degree of it except perhaps for two or three months in summer.

In the progress of the disease different parts become affected. At first, it commonly affects one foot only, but in the subsequent fits, both feet in succession; and frequently removes from one foot into the other. Besides the feet it often seizes other joints, which it variously affects in the same fluctuating manner just described.

In many persons, but not in all, after a frequent return of the complaint, concretions of a chalky nature are formed upon the outside of the joints, and for the most part immediately under the skin; where it seems to be deposited at first in a fluid state, but afterwards becomes dry and firm; and contributes, with other circumstances, to destroy the motion of the joint.

Regimen.—There being as yet no radical cure discovered for the gout, we can only recommend the directions proper to be followed during the fits of the disease and the intervals.

In a fit of the gout, if the patient be young and strong, the best course he can adopt is to use a thin and cooling diet, with drinks of a diluting nature; but if the constitution be weak, and the patient accustomed to live high, it will be safest not to deviate much from his usual manner of living, and that he take frequently a cup of strong negus, or a glass of generous wine. A beneficial drink, in this case, is wine-whey, which promotes perspiration, without much heating the body; and it may be rendered more efficacious, by mixing with it, twice a day, a teaspoonful of spirit of hartshorn. A good substitute for this medicine, at night, is the same quantity of the volatile tincture of *guaiacum*, given in a small bason of warm wine-whey.

During the continuance of the paroxysm, the leg and foot should be wrapped in soft flannel or wool, and the patient be kept quiet and easy, with particular attention to avoid all disturbance of mind. There is danger in every external application to the parts affected during the inflammatory state; and all evacuations ought likewise to be used with caution, though it be generally beneficial to keep the body gently open by means of diet, or very mild laxative medicines, when the constitution can bear them.

Opiates afford the most certain relief from pain; but this resource, when employed in the beginning of gouty paroxysms, has been thought to occasion a more violent return of the complaint. When the pain, however, is very great, and the patient restless, thirty or forty drops of laudanum, more or less, according to the violence of the symptoms, may be taken at bed-time, both with safety and advantage; especially in the case of persons advanced in life, and who have been often affected with the disease. When, after the cessation of the fit, some swelling and stiffness remain in the joints, recourse should be had to the diligent use of the flesh-brush. The patient may then take a gentle dose or two of the bitter tincture of rhubarb, or wine of aloes. Stomachic bitters, with the Peruvian bark, either in infusion or tincture, will likewise be serviceable. The diet should be light, but nourishing, accompanied with gentle exercise on horseback, or in a carriage.

Should the joints affected remain weak, recourse may be had to the flesh-brush, or flannels impregnated with frankincense, amber, or myrrh, by way of friction. Though using the joint affected, during the decline of the fit, may be painful, still the practice is advisable: for it prevents the too great relaxation of the ligaments from the flux and stagnation of fluids in these vessels; gives them strength, and prevents the continuance of that debility, of which people so much complain when the fit is quite over. The motion may at first be gentle, and afterwards in proportion, as the parts recover strength.

Such is the treatment proper in a regular fit of the gout; but when the disorder is irregular, a very different procedure becomes necessary. Of this kind of gout there are three species: the atonic, the retrocedent, and the misplaced.

In the atonic gout, or that which does not fix itself in the feet and hands, the cure must be effected by carefully avoiding all debilitating causes; and by employing, at the same time, the means of strengthening the system in general, and the stomach in particular. For accomplishing the former of these indications, the most useful means are frequent exercise on horseback, and moderate walking. Cold bathing is likewise very efficacious for answering the same purpose; and may be safely employed, if it appear to be powerful in stimulating the system, and be not applied when the extremities are threatened with any pain.

For supporting the strength of the system in general, vhen threatened with the atonic gout, some animal food ught to be used, and the more acescent vegetables should e avoided. In the same case, some wine also may be neessary; but it should be in moderate quantity, and of the east acescent kinds. But if every kind of wine should be ound to increase the acidity of the stomach, the patient nust, instead of them, make use of spirituous liquors diuted with water. For strengthening the stomach, bitters nd the Peruvian bark may be employed; but they ought ot to be continued for any considerable length of time, vithout intermission.

In the atonic gout, or in persons liable to it, to guard gainst cold is a caution of great importance; and the most ertain means of doing this is by repairing to a warm cliate during the winter. In northern situations, it is of great onsequence for this purpose to wear fleecy hosiery, or at ast flannel, next the skin. In the more violent cases, blisring the lower extremities may be useful; but this remedy should be avoided when any pain threatens those parts. In persons subject to the atonic gout, issues in the extremities have been found of great advantage.

The retrocedent gout is that kind in which the disorder suddenly retires from the extremities, and attacks some internal part; such as the stomach, lungs, head, &c. This happens when the moving powers are so weakened, as not to be able to throw the offending matter to the extremities, or, when there deposited, to keep it in that situation. When it fixes upon the parts above mentioned, it is extremely hazardous, in proportion to the degree of violence; and every effort should be made as expeditiously as possible to throw it out of the habit into the extremities, and particularly into the feet.

When the disorder affects the stomach and intestines, relief is to be instantly attempted by the free use of strong wines, joined with aromatics, and given warm. Peppermint-water, likewise, and even brandy or rum, may be administered on this occasion. In this state the patient ought to keep his bed, and endeavour to promote perspiration, by drinking warm liquors, with some spirit of hartshorn; and if he feel any inclination to vomit, he may promote it by drinking some infusion of chamomile flowers, mixed with wine.

In this case, opiates are often highly beneficial. They may be usefully joined with aromatics, or a volatile alkali and camphor. Twenty or thirty drops of laudanum, with a tea-spoonful of compound spirit of lavender, may be taken in a cup of warm wine.

If, in consequence of a retrocession of the gout, the intestines be affected with a looseness, this ought to be at first promoted by taking plentifully of weak broth; and, after the bowels are thus cleansed, the irritation may be allayed by opiates: for example, by the dose of laudanum above directed.

When the gout attacks the lungs, and produces a difficulty of breathing, the feet ought to be bathed in warm water, and stimulating cataplasms or poultices applied to the soles. These may consist of the common sinapism, made of crumbs of bread and the flower of mustard-seed, with strong vinegar; to all which may be added some bruised garlic. Blisters should be applied to the back or breast, and the calves of the legs. Here, likewise, opiates are of advantage; as are also asafœtida, castor, and musk.

When the gout seizes the head, affecting it with pain, giddiness, apoplexy, or palsy, the external applications mentioned in the preceding paragraph may be employed, and a blister applied to the head: besides which, ten grains of ginger, and five grains of the salt of hartshorn, should be thrown into the stomach, if possible, in two or three table-spoonfuls of warm wine.

In persons who never have had any regular fit of the gout, but whose constitution and manner of living seem favourable to the production of the complaint, and of an age when it commonly makes its appearance, great caution is necessary in treating any disorder with which they may happen to be attacked. This remark holds particularly with respect to evacuations; in the regulation of which it will be proper to pursue such a method of cure as that, whilst adapted to the apparent disorder, it may not prove injurious should the real cause of the symptoms be the gout in disguise. In doubtful cases of this kind, it can hardly ever be improper to bathe the feet in warm water. The caution here recommended will be still more necessary if the person has formerly experienced a fit of the gout.

A considerable respite from the gout may often be obtained by the use of Bath waters, but neither these nor any medicines are calculated to eradicate the disorder from the habit. For accomplishing this purpose, there appears to be no other means than a strict attention to regimen; in which, universal temperance, and daily exercise, or rather labour, must form an indispensable part. A vegetable diet, or a diet entirely of milk, has been strongly recommended as the most certain preservative from the gout, and many instances confirm its utility; but a change from the use of animal food, and strong liquors, can only be adopted with safety by slow degrees. To use light suppers, to avoid night-watching, and to rise early, are objects of great importance; and a circumstance no less beneficial is to guard against vexation of mind.

CHAP. XXXII.

Rheumatism.

THE rheumatism is distinguished into two kinds, namely, the acute, and chronic; the former of which is accompanied with fever. It is a disease more frequent in cold than in warm climates, and is most common in autumn and spring. It prevails most among the peasantry who are ill-clothed, live in damp houses, and feed upon crude and unwholesome diet.

CAUSES.—The rheumatism often proceeds from obstructed perspiration. Wet feet, wet clothes, and lying in damp beds, or on the damp ground, are all very apt to produce it. It may also be occasioned by the stoppage of customary discharges; or by excessive evacuations, which debilitate the body. On the same account, it may be the consequence of fevers, or other previous diseases, which vitiate the humours; such as the scurvy, lues venerea, &c.

These causes may affect persons of all ages; but the acute rheumatism appears neither in very young or elderly persons, and most commonly occurs from the age of puberty to that of thirty-five; affecting chiefly persons of a sanguine temperament.

SYMPTOMS.—The acute rheumatism commonly begins with a cold stage, attended with weariness and shivering, which are soon after succeeded by a quick pulse, often full and hard, restlessness, thirst, and other symptoms of fever. The patient then complains of unusual pains in different parts of the body, which, afterwards, particularly affect the joints, and for the most part these alone. They frequently shoot along the course of the muscles, from one joint to another, and are always much increased by the action of the muscles. The joints most frequently affected are those of the larger kind; such as the joints of the hip, knees, shoulders, and elbows. The ancles and wrists are also frequently affected; but seldom the smaller joints. Sometimes the disease is confined to one part, but often to many parts at a time.

Sometimes the fever is formed before any pains are perceived; but, more commonly, pains are felt in particular parts before any symptoms of fever occur The pains do not usually remain long in the same joint, but frequently shift from one to another, and having abated in one joint they become more violent in another. The fever attending these pains is perceptibly increased every evening, and is most considerable during the night, when the pains also become more violent; and it is likewise at this time that the pains shift their place from one joint to another.

When a joint has for some time been affected with pain, there commonly ensues a swelling and redness of the part, which is painful to the touch; but, on the appearance of the swelling, the pain, if it cease not entirely, most generally abates.

It is often difficult to distinguish the acute rheumatism from the gout; but in the former there in general occurs much less affection of the stomach, and more fever. The disease likewise commonly appears at an earlier period of life than the gout: it is not observed to be hereditary; and it may in general be traced to some obvious existing cause, particularly to the effect of cold upon the body.

Cure.—The treatment of the acute rheumatism is nearly the same as that of an inflammatory fever. Bleeding is necessary, and ought to be repeated according to the violence of the symptoms; but still with caution, as very profuse bleedings occasion a slow recovery, and, if not absolutely effectual, are apt to produce chronic rheumatism.

After bleeding from a vein, it will be of great advantage to apply leeches to the joints affected. Six or eight may be laid on at a time; and the same number next day, if the pain be still very severe. The body ought likewise to be kept open by gentle purgatives, such as tamarinds, cream of tartar, or senna, or particularly an infusion of mountain flax, (linum catharticum). Next to blood-letting, nothing is of so much service in this disease as sudorific medicines, or those which promote perspiration. One of the most effectual for this purpose is the compound powder of ipecacuanha, known by the name of Dover's powder. Of this, ten grains may be taken every hour for three times, unless the first or second dose has proved sudorific. The patient should, in the mean time, take frequently a cup of warm barley-water, or gruel, to promote perspiration.

Nitre joined with antimony is also an efficacious remedy in this disease. Fifteen grains of the former, with two of the latter, may be taken in a wine-glassful of water, and repeated every three or four hours while the fever and pain continue.

If, in the course of the disease, the extremities should swell, and be much pained, leeches, as above directed, may be applied to the tumefied parts; as may likewise the following cataplasm. Take of rye-meal, one pound; old yeast, four ounces; common salt, two ounces; warm water, a sufficient quantity: let the whole be wrought into a paste, and wrapped round the part affected as warm as can be; renewing it morning and evening.

It is not uncommon for this disease, after some days, to put on the appearance of an intermittent. In such a case the Peruvian bark is the most effectual remedy; and even without the appearance now mentioned, when plentiful sweats break out, and the urine deposits a copious sediment, the use of the bark is highly advisable, and will tend greatly to shorten the disease. By the early use of this remedy, where a complete intermission from pain is obtained, the necessity of repeated blood-letting and sweating is often superseded: but where a complete remission cannot be obtained, it has been suspected by some to be hurtful. In these cases, when bleeding and sudorifics have been pushed as far as may be thought prudent, without producing the desired effect, great benefit has often been experienced from the use of calomel combined with opium. From one to five grains of the former, and from one fourth of a grain to one grain of the latter, in proportion to the age and strength of the patient, is to be given every six, eight, or twelve hours, made into a bolus with any conserve, or some crumbs of bread and a tea-spoonful of water. During the exhibition of this medicine, the patient must use plentiful dilution with barley-water, or any other weak drink.

In the *acute* rheumatism it is necessary that the diet be of the lowest kind, and taken in very small quantity. Water-gruel may constitute the whole of the patient's nourishment through the disease.

The *chronic* rheumatism is most common to people in the decline of life. It is generally confined to some particular part of the body, and seldom accompanied with any considerable degree of fever. Sometimes a swelling attacks the parts affected, but without much inflammation or redness. Sometimes there appear in different parts small tumors, of a roundish figure, affecting chiefly those of a full habit, and women who have not their menses regularly.

In curing this species of rheumatism, in full habits, it may often be of advantage to bleed once; but the disorder is best carried off by the natural discharges. A drachm of cream of tartar, taken twice a day in a cup of the decoction of burdock-root, made with half an ounce of the root to a pint of water, has been found of great service in this complaint. The patient should also take at night a tea-spoonful of the volatile tincture of guaiacum, in some wine-whey.

If, after using these remedies for a little time, the pain still continues fixed, it will be proper to apply a blister to the part, and to take a table-spoonful of white mustard-seed two or three times a day in a glass of water or small wine.

Every thing heating in diet ought to be avoided in this kind of rheumatism, as well as the acute. Vegetables and light puddings are the most suitable aliments. A diet of whey and bread has been strongly recommended in this case. The patient ought to use exercise, wear flannel next the skin, and avoid, as much as possible, all exposure to night-air, wet clothes, and wet feet, which are particularly hurtful.

Cold-bathing, especially in salt water, is a very efficacious remedy in this kind of rheumatism; as are likewise the warm baths of Buxton or Matlock in Derbyshire. When the disease is accompanied with a scorbutic habit, the Harrowgate and Moffat waters, taken internally and used as a warm bath, are very beneficial.

In full habits subject to the rheumatism, issues are found to have good effect. When the pain affects the upper parts, the place most proper for an issue is the arm; but when seated in the loins, and the contiguous parts, as in the lumbago, and sciatic or hip gout, it should be put into the leg or thigh.

For the lumbago, just now mentioned, the following is an efficacious remedy. Take of camphor, two drachms: dissolve it in an equal quantity of oil of turpentine; and add of basilicon, an ounce; common black soap, half an ounce; and volatile sal ammoniac, half a drachm. Let the mixture be spread upon leather, and applied to the part.

CHAP. XXXIII.

Cholera-Morbus.

THE characteristics of this disease are a violent vomiting and purging of bilious matter, accompanied with sickness, gripes, and a flatulent distension of the belly. It is most frequent in autumn, and sometimes comes on suddenly; but is commonly preceded by a disorder at the stomach, and an uneasy sensation in the bowels, producing, in a short time, an excessive evacuation both ways. The patient has great thirst, with a small unequal pulse, and often a fixed acute pain about the region of the navel: In the progress of the disease, he is frequently affected with violent contractions in particular parts of the body. The urine is obstructed, and there is a palpitation of the heart. When the disorder rages with great violence, it produces cold clammy sweats, hiccup, convulsions, faintings, and the patient is sometimes carried off in twenty-four hours. It is divided into two kinds; namely, the *spontaneous*, or that which arises after a hot summer, without any manifest cause; and the *accidental*, when it is not obviously the consequence of the season, but of improper food or of a sickness.

CAUSES.—It is in general occasioned by a redundancy and acrimony of the bile; fat meats, and such as become either rancid or acid on the stomach; too free an use of sweet-meats, and cold fruits, such as cucumbers and melons. It is sometimes produced by a stoppage of perspiration; strong acrid purges or vomits; violent passions, &c.

CURE.—In this disease, there being much bile deposited in the alimentary canal, particularly in the stomach, the first object is to counteract its effects, and promote an easy discharge of it. To accomplish this end, we must assist the efforts of nature, by giving the patient a large quantity of warm water, or very weak broth; which ought not only to be drunk plentifully to promote the vomiting, but a clyster of it given every hour to favour the discharge by the intestines.

When by these evacuations the acrimonious humours have been in great measure discharged, and the pains begin to abate, an infusion of toasted oat-bread, or of oat-meal made brown, may be drunk to stop the vomiting. For the same purpose an infusion of mint-leaves, or good simple mint-water, with a few drops of laudanum, is frequently very efficacious.

Sometimes the propensity to vomit is so strong, that no drink will sit on the stomach. In this case it will be proper to give a saline draught every hour with ten drops of laudanum, till the vomiting ceases: but when the opiate cannot be retained in a fluid form, by the aid of any addition, it should be given in the solid state; for instance, half a grain or more, of opium made into a pill with conserve of roses, or any other conserve, and repeated as occasion may require.

The evacuations in this disease are critical and salutary, and therefore, as long as they do not *weaken* the patient, they are rather to be promoted than restrained; but if the pulse begin to sink, and there be symptoms of great debility, it will be necessary to have recourse to opiates, and to administer them in such quantity as may be requisite for stopping the discharge.

In the mean time, strong wine-whey, or brandy and water, &c. may be given to support the patient's strength, and excite perspiration; with this intent Dover's powder may also be given with great advantage. His legs should be bathed in warm water, and afterwards rubbed with flannel cloths. Flannels wrung out of warm fomentations, made with a decoction of wormwood and chamomile-flowers, with the addition of some brandy, or other spirituous liquor, should likewise be applied to the region of the stomach.

To prevent a relapse, and at the same time keep the intestines free from feculent matter, it will be proper to repeat the opiate at least twice a day for a week; giving with it in the morning and at night eight grains of rhubarb, or such a quantity as will procure a stool once in the twenty-four hours.

A disposition to vomiting often remains for a considerable time after the disease has ceased. To allay this symptom, and restore the strength of the stomach, it will be proper that the patient take twice a day a tea-spoonful of the following powder, in a glass of wine, or mint-tea. Take of the powder of Peruvian bark half an ounce;

of the powder of columbo-root two drachms and a half; ginger, powdered, one drachm. Mix them.

The patient should use a light nourishing diet, but taken in small quantity at a time, and also moderate exercise.

CHAP. XXXIV.

Diarrhœa, or Looseness.

A DIARRHŒA consists in evacuations by stool more frequent than usual, and of a thinner consistence. It is incident to people of all ages, and happens at any season of the year.

CAUSES.—It may be occasioned by a stoppage of perspiration, especially by cold applied to the feet; eating food hard of digestion, or in too great quantity; the stoppage of any customary evacuation; acrid substances received into the stomach; violent affections of the mind, &c.

CURE.—When the complaint proceeds from a stoppage of perspiration, it is to be treated as a cold. The patient ought to keep warm, drink plentifully of weak diluting liquors, and bathe his feet in warm water.

If it be owing to any load upon the stomach, the proper remedy is a vomit of ipecacuanha. A day or two after, the patient should take a dose of rhubarb; and repeat it two or three times if the disorder continues. The diet, in the mean time, should consist of light puddings and vegetable food; and the drink, of thin gruel or barley-water.

When the complaint arises from the obstruction of any customary discharge, if the pulse is full, bleeding may be necessary; and an effort should be made to restore the suppressed evacuation.

When a looseness is occasioned by acrid substances taken into the stomach, the patient ought to drink largely of diluting and mucilaginous liquors, with oil and fat broths, both to sheathe the acrid matter, and promote its discharge by vomiting and purging; interposing now and then small doses of laudanum to abate the irritation.

If it proceed from acidity in the bowels, in which case the stools are of a green colour, the cure must be accomplished by absorbents. Take of the purest chalk in powder two ounces; gum-arabic half an ounce; water three pints: boil to one quart, and, after straining the decoction, add two table-spoonfuls of brandy, and sweeten with fine sugar when used. Four table-spoonfuls may be taken every two or three hours while the looseness continues.

When the disorder is occasioned by a retrocession of the gout from the extremities, it ought to be promoted by gentle doses of some mild purgative, such as rhubarb, or senna; endeavouring at the same time to recall the gout to the extremities by warm fomentations and cataplasms. In this case, it will also be proper to encourage perspiration by taking some wine-whey, rendered more diaphoretic by spirits of hartshorn, or a few drops of the tincture of opium.

When a diarrhœa proceeds from violent affections o the mind, it requires to be treated in the gentlest manner, avoiding all irritation that might be excited either by vomits or purgatives; and on the contrary, by endeavouring to allay the commotion of the body and the agitation of mind. These purposes will be best answered by giving ten or twelve drops of laudanum every eight or ten hours in a cup of barley-water, or linseed-tea.

When a looseness is occasioned by worms, which may be suspected from various symptoms, such as pains of the belly, sudden startings, picking the nose, &c. but clearly ascertained from decayed fragments of this intestinal brood being mixed with slimy stools; the patient should take twice a-day half a drachm of a powder made of equal parts of worm-seed* and tin, and every two or three days a dose of rhubarb, with a few grains of calomel.

Sometimes the disorder proceeds from drinking bad water, in which case it is generally observed to be epidemical. As soon as the cause is discovered, the water ought, if possible, to be changed; or where this cannot be done, the noxious quality of the water should be corrected, by mixing with it some lime, chalk, or alum.

When a diarrhœa is produced by a weakness of the stomach and bowels, in which case the complaint is apt to become habitual, the patient may take twice a day half a drachm of a powder made of an ounce of Peruvian bark, and half an ounce of rhubarb, in a glass of port wine; or ten grains of angustura, with one or two of salt of steel; decoction of logwood†, &c.

When a looseness, from whatever cause it proceeds, requires to be checked, the diet ought to consist of rice boiled with milk, and flavoured with cinnamon; sago; and the lighter sorts of flesh roasted. Salted meats, pork, and all kinds of fish, are unsuitable. The most proper drink is port wine diluted with water.

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* See *Appendix*. † Ibid.

Those who are apt to be seized with a looseness upon catching cold, ought always to wear flannel next the skin. Where the disorder is frequent in its returns, we may justly suspect a weakness and irritability of the bowels: for obviating the effects of which, the person should be temperate in the quantity of aliments, and avoid meats hard of digestion, as well as such as are crude and unwholesome. To other objects of attention should be added tranquillity of mind, and the use of exercise on horseback. Chalybeate waters are also useful.

CHAP. XXXV.

Dysentery.

THIS disease affects chiefly persons of a bilious constitution, and is most frequent in autumn: in ships and camps it is likewise often contagious.

Causes.—It may be occasioned by a stoppage of perspiration, especially after hot weather; unwholesome food; bad air; wet clothes, &c. It is a frequent disease in camps, and other places where a number of men is assembled under circumstances favourable for its production.

Symptoms.—In many cases this disease comes on with chillness and other symptoms of fever, but more commonly without them; the patient being generally costive, and troubled with unusual flatulence in the bowels. Then commences a flux of the belly, attended with gripings and a frequent inclination to go to stool; all which increase in the progress of the disease. At first the stools are commonly greasy and frothy, afterwards more or less streaked with blood; though sometimes this symptom is absent, and at other times exists in a high degree. The natural fæces in the mean time are generally retained, or voided in small quantity, and in a compact hardened form. But in the course of the disease, the matter voided by stool is often various in its appearance, though commonly of a strong and unusually fœtid smell. There are often mixed with liquid matter some fragments resembling bits of skin, and frequently small lumps of a sebaceous or fatty appearance. When natural stools are voided, which, as has been already observed, are generally in a hardened state, they procure a mitigation of all the symptoms, especially of the griping, and troublesome inclination of going to stool.

When the fever attending the dysentery is of a violent inflammatory kind, and especially when it is of a highly putrid nature, the disease often terminates fatally in a very few days, by a gangrene or mortification of some part of the bowels; but when the attendant fever is moderate, or entirely disappears, the disease is often protracted for weeks, and even months.

Vomiting and a hiccup are bad signs in this disease; as are likewise greenish or black stools, with an extremely putrid smell. When the pulse becomes weak, and the extremities cold, with difficulty of swallowing, and convulsions, a fatal termination is near at hand.

Cure.—When the dysentery is accompanied with a strong full pulse, and a high degree of fever, it will be necessary to bleed; but, except in strong constitutions, this evacuation is seldom requisite, and then only in the beginning; the disease being apt to run into a putrid nature, which does not admit of blood-letting. The first thing therefore to be done is to give a vomit of ipecacuanha, which should be worked off with an infusion of chamomile-flowers. If there be any considerable sickness at the stomach, ten or fifteen grains of the powder will generally be sufficient for the purpose; but in the absence of this symptom the quantity may be doubled.' Next day, the patient ought to take half a drachm of rhubarb, or ten drachms of Epsom or Glauber's salts; drinking with it barley-water or weak broth, and repeating the purgative every other day for two or three times.

In the mean time, the patient must abstain from flesh, fish, and all kinds of food that have a tendency to become putrid or rancid in the stomach or bowels. The most proper diet is plain light puddings, jellies, veal or chicken broth, rice-gruel, barley-water, and the like. In the putrid dysentery, the patient may be allowed to eat freely of any of the common fruits, when ripe; such as apples, cherries, gooseberries, strawberries, currant-berries, &c.

For drink the patient may use barley-water, whey, or a light decoction of tamarinds. If his stomach will admit of chamomile-tea, he may use it with advantage both as drink and medicine. At least he should take a cup of it two or three times a day.

Both the patient and his apartment should be kept as clean as possible. Every thing about him should be frequently changed. His excrement, as soon as voided, ought to be carried off and buried under ground, as being not only hurtful to himself but infectious to others. To avoid the danger of putrid air, a free ventilation should be kept up in his chamber by means of the door and windows; and the floor of it be frequently sprinkled with vinegar, or some other acid.

After the evacuations which have been mentioned, it will be proper to give two or three grains of the powder of ipecacuanha three times a day in a table-spoonful of the syrup of poppies, in order to impel the fluids towards the surface of the body. At the same time the intestines are to be defended by mucilaginous medicines, and the flux of humours towards them checked by gentle astringents; interposing occasionally a moderate dose of laudanum to allay irritation.

For defending the intestines, an ounce of gum-arabic may be dissolved in a pint of barley-water, and two or three table-spoonfuls of it taken frequently; while, for the same purpose, the patient may drink linseed-tea. For this intention spermaceti is also a proper medicine. Half a drachm of it dissolved with a little of the mucilage of gum-arabic, may be taken three or four times a day in a cup of barley-water.

During the use of these remedies, clysters ought also to be administered, both for restraining the discharge, and abating the tenesmus or continual desire of going to stool, which is one of the most distressing symptoms of this disease. The clysters may be made of half a pint of fat mutton broth, with thirty or forty drops of laudanum, given twice every day. Or, for the same purpose, half an ounce of powdered starch may be dissolved in half a pint of barley-water, and given with the laudanum as now mentioned.

The violent griping is generally relieved by the free use of mucilaginous liquors; and may be likewise much abated by frequently applying to the belly flannel cloths wrung out of a decoction of chamomile-flowers.

When the disease proves tedious, or terminates in a lingering looseness, the wearing flannel next the skin will be found of great advantage.

When it is complicated with an intermittent, and protracted chiefly from that circumstance, recourse should be had to the Peruvian bark: but this is not to be practised in the earlier periods of the disease. In hot climates, small doses of calomel and opium frequently repeated are found successful.

Besides the diarrhœa and dysentery, there are other fluxes of the belly, such as the lientery and cœliac passion, in which the aliments pass too rapidly through the intestines. They are generally of a chronic nature, and to be cured by the use of chalk and astringents, in the same way as a looseness. In these, however, the Peruvian bark, with bitter stomachic medicines, and riding on horseback, ought generally to be administered; and indeed the same regimen should be adopted, for completing the cure, and restoring the tone of the bowels, after every flux of the belly.

CHAP. XXXVI.

Costiveness, and the Hæmorrhoids, or Piles.

By costiveness is here understood, not those astrictions of the belly which accompany some diseases of the bowels, but that retardment of the alvine discharge which exceeds the common standard of most constitutions in a healthy state, and may prove the cause of different complaints.

Costiveness may be either constitutional or accidental. When the latter, it may be occasioned by food too much seasoned with spiceries, or by crude insipid aliments, which do not sufficiently stimulate the intestines; drinking hard water, rough red wines, or other astringent liquors; too much exercise, especially on horseback; a sedentary life. Sometimes it proceeds from too inert a state of the bile, or its not descending into the intestines, as happens in the jaundice: sometimes from a torpidity of the bowels, and it may also be occasioned by a laxity of the abdominal muscles, which sometimes occurs in women who have borne several children.

When costiveness is constitutional, it may be suffered without any sensible inconvenience for an almost incredible length of time; but when the complaint is occasional, it is apt to produce pains of the head, vomiting, colics, and different disorders of the bowels. There is a species of costiveness incident to persons much relaxed, and which is attended with great pain at the fundament; the fæces being so extremely hardened that the person is unable to protrude them. In this case, the best remedy is a small clyster of linseed-oil, or oil of olives; which, by lubricating the passage, will facilitate the discharge.

As the frequent use of purgatives tends to weaken the bowels, it is better to obviate costiveness by means of diet than medicine. Those, therefore, who are subject to it, should avoid all astringent food and drink, and chiefly confine themselves to aliments of a moistening and laxative kind, such as veal-broth, boiled meats, apples roasted or boiled, stewed prunes, raisins, currants, &c. Butter, honey, and sugar, especially the moist kind, are likewise suitable articles of diet; as are also soft pot-herbs, such as spinnage and leeks, with the roots of turnip and parsnep. The best bread for such constitutions is brown bread, or that which is made of a mixture of wheat and rye.

The drink ought likewise to be of an opening quality. Malt liquor of a moderate strength, and not much hopped, is well adapted; as are likewise whey, butter-milk, and other watery liquors that have nothing in them of an astringent nature. Spirituous liquors, as well as rough wines, are improper.

Besides diet there are other circumstances to which persons of a costive habit should be attentive. They ought to use moderate exercise, and neither to keep the body too warm nor lie too long in bed, as both these practices increase the complaint by too much promoting perspiration. Another circumstance of great importance towards acquiring a proper regularity of bowels, especially among females and sedentary persons, is never to neglect the solicitations of nature.

Of the Hæmorrhoids, or Piles.

These are painful tumors about the lower part of the straight-gut distinguished into the *external* and *internal*, according to their situation, either without or within the anus. They are also distinguished into the *bleeding* piles, and the *blind* piles; in the former of which there is a discharge of blood, but in the latter, though very painful, no discharge.

Sometimes these tumors appear without any previous indisposition, but more frequently they are preceded by various affections in different parts of the body; such as head-ache, vertigo, or dizziness, difficulty of breathing, sickness, colic pains, and sometimes a considerable degree of feverishness; besides which symptoms there is a sense of fullness, heat, itching, and pain, about the anus.

The quantity of blood discharged in this complaint is variable on different occasions. Sometimes it flows only when the person goes to stool, and commonly follows the discharge of fæces. In other cases, it flows without any discharge of fæces; and then generally in consequence of the disorders above mentioned, when it is also commonly in larger quantity. Sometimes the complaint returns at stated periods; and in the decline of life, when the hœmorrhoidal flux ceases to flow where it formerly had been frequent, the person is generally attacked with an apoplexy or palsy.

The piles are most incident to persons of a full habit of body, who live high, and take but little exercise. In general, men are more liable to this complaint than women; but the latter are often subject to it during the advanced state of pregnancy; and there are few women who have had children, that are afterwards entirely free from the piles.

Causes.—The disorder may be occasioned by too great a quantity of blood, drinking freely of sweet wines, much riding on horseback, strong aloetic purges, great costiveness, and a stoppage of customary evacuations. Sitting on damp ground will sometimes give rise to it; as will likewise the changing from thick breeches to thin.

It has been a generally received opinion, that the hæmorrhoidal flux is a salutary discharge, which prevents many diseases that would otherwise have happened, and that it even contributes to longevity. But Dr. Cullen is of a contrary opinion. He maintains that we can never expect to reap much benefit from this flux, which at first is purely topical; and granting that it should become habitual, it is never, he thinks, proper to be encouraged. It is a disagreeable disease, ready to go to excess, and thereby to prove hurtful, and sometimes even fatal. At best it is liable to accidents, and thus to unhappy consequences. He is therefore of opinion, that even the first approaches of the disease are to be guarded against; and that, though it should have proceeded for some time, it ought always to be moderated and the necessity of it superseded.

CURE.—The question, whether the bleeding piles be salutary to the constitution? can only be determined by considering the state of the body at the time. If there exist any disease, the cure of which may be favoured by diminishing the quantity of blood, the hæmorrhoidal flux must in that case be regarded as advantageous; and it may, in the same manner, prevent the return of any similar disease to which the constitution is subject. But abstracted from these two considerations, it is doubtless a waste of the vital fluid, and ought to be prevented from becoming habitual to the constitution.

When the piles exist in the state of tumor, the principal objects are to counteract the inflammation, and promote a discharge of blood from the part. When it is in the state of evacuation, the chief intentions of cure are to diminish the impetus or force of the blood at the part affected, and to increase the resistance to the passage of blood through the ruptured vessels.

When the cause of the piles is evident, it ought, if possible, to be immediately removed. Of this kind none is more frequent than costiveness, which, if it cannot be sufficiently obviated by diet, must be opposed by gently laxative medicines. For this purpose the patient may use the following electuary, in the quantity of a tea-spoonful, three or four times a day, according as it produces the effect of keeping the belly open. Take of the electuary of senna two ounces; flowers of sulphur one ounce; with as much simple syrup as will mix them into a proper consistence. Or, instead of this composition, he may take as often, if necessary, the same quantity of a mixture made of equal parts of flowers of sulphur and cream of tartar.

When the discharge from the piles has continued long, or is in so great a quantity as to weaken the person, it must be moderated by a cooling diet and astringent medicines. Half a drachm of the powder of Peruvian bark, with ten or fifteen drops of the elixir of vitriol, may be taken three or four times a day in a glass of red port.

When the bleeding piles return periodically, once in three weeks or a month, as sometimes happens, they may be considered as a discharge beneficial to the constitution, by unloading it of a redundancy of blood, and ought therefore not to be stopped, unless they become excessive: in which case, besides the use of the Peruvian bark and elixir of vitriol above mentioned, the anus may be fomented with a decoction made with half an ounce of powdered galls, boiled for a few minutes in somewhat more than half a pint of smiths' forge-water, and applied cold. Vinegar, in which a little alum is dissolved, may be used for the same purpose; as may even cold water, frequently applied with a linen rag.

During a flux of blood from the piles, the person should lie in a horizontal posture on a hard bed, and avoid external heat.

In the *blind* piles, bleeding is commonly of service. The same cooling diet is proper here as in the other species of the complaint; and the belly must in the same way be kept open. If the piles be internal, softening clysters are of advantage, when an astriction of the anus does not prevent their being admitted. When, on the contrary, they are external, and the veins painful and swelled, but discharge nothing, the patient ought to sit over the steams of warm water, and afterwards apply to the part a little of the following ointment. Take of simple ointment half an ounce; laudanum a tea-spoonful. Mix. But if the part be much swelled, the most effectual remedy is to apply leeches. If these, however, should not fix, the piles may, with great ease and safety, be opened with a lancet.

Much exercise during the piles is both inconvenient and improper, but at other times very advantageous; and, for preventing the return of the complaint, it is particularly useful to guard against a plethoric state of the body, or that in which the vessels abound too much with blood. A sedentary life, therefore, a full diet, and intemperance in the use of strong liquors, ought all to be avoided by those who are subject to the disorder.

CHAP. XXXVII.

Of the Diabetes, and other Disorders relative to the Urinary Discharge.

A DIABETES is an excessive discharge of urine, with symptoms different from that which takes place in the hysteric or hypochondriac disease. It seldom attacks young people, but frequently persons in the decline of life, especially those who are employed in laborious occupations, and have been used to drink freely of strong liquors.

SYMPTOMS.—In this disease the urine is so copious that it commonly exceeds in quantity all the liquids which the person consumes. It is clear, pale, commonly sweet to the taste, and has, generally, an agreeable smell. The patient is molested with a continual thirst, his mouth is clammy and dry, and he frequently discharges from it a frothy spittle. There is likewise a heat of the bowels; with a fullness of the loins, testicles, and feet. The pulse is small and quick. Sometimes there is an extraordinary appetite; but in the progress of the disease this symptom totally ceases, and the patient becomes weak and emaciated.

CAUSES.—A diabetes may proceed either from too dissolved a state of the blood, or some fault of the stomach or kidneys, whether a relaxation of those organs, or a morbid stimulus applied to them. It is sometimes the consequence of acute diseases, in which the patient's strength has been reduced by excessive evacuations. It may not only be occasioned by hard drinking, as intimated above, but by too free an use of strong diuretic medicines; as it may likewise by long-continued riding upon a hard trotting horse; carrying heavy burdens, and other violent exertions of the body.

This disease, when taken at the beginning, generally admits of a cure; but when it has continued so long as greatly to weaken the constitution, little hope is to be entertained of a recovery.

CURE.—For lessening the secretion of urine by the kidneys, it is of advantage to support the natural discharge of the watery part of the blood by the other outlets of the body. If, therefore, the patient be not too much weakened by the continuance of the disease, he ought to take every day ten grains of the powder of rhubarb, more or less, according as may be necessary to keep the body gently open; supporting, at the same time, the perspiration by wearing flannel next the skin, and taking, every other night, twelve or fifteen grains of the compound powder of ipecacuanha.

Astringent and strengthening medicines are next to be given. Of equal parts of gum-kino, catechu, alum, and gum-arabic, all powdered and mixed together, the patient may take two scruples three or four times a day: drinking after it a cup of lime-water, in a quart of which six drachms of oak-bark has been infused. Alum-whey is likewise highly beneficial, if the stomach can bear it along with the powder now mentioned. It is made by boiling over a slow fire two quarts of milk with three drachms of alum, till the curd separates. Opiates are found beneficial in this disease, by allaying the irritation of the kidneys: on which account, the patient may take, three or four times a day, ten drops of laudanum in a cup of his drink, notwithstanding he may rest well without it.

As a strengthening remedy in this disease, no medicine is preferable to the Peruvian bark; of the powder of which the patient may take two scruples or a drachm in a glass of red port two or three times a day, adding, to each dose, fifteen drops of the elixir of vitriol, or eight drops of the sulphuret of ammonia.

During this disease the patient's diet ought to be entirely of the solid kind. Jellies, sago, and shell-fish, are also proper; but all vegetables must be avoided. The drink should be Bristol-water, or, where that cannot be procured, lime-water with an infusion of oak-bark, as above directed. For the same purpose, the white decoction, mentioned in the Appendix, is also suitable. The patient ought to take daily exercise, but such as not to fatigue him; and he should lie upon a hard bed or mattress.

Incontinency of Urine.

In this disorder, the water passes off, involuntarily, by drops, but does not exceed the usual quantity. It is a complaint most frequent with people in the decline of life, and is rather troublesome than dangerous. It proceeds from a relaxation of the sphincter of the bladder, and is often the effect of a palsy. Sometimes, however, it is produced by a continued use of strong diuretics, or by hurts received about the neck of the bladder in consequence of bruises, violent labours, &c.

CURE.—All strengthening medicines, such as the Peruvian bark, uva ursi, the preparations of iron, elixir of vitriol, and balsam of copaiba, are the remedies most proper for this complaint. The cold-bath, likewise, is of great advantage, where nothing prohibits the use of it; but the speediest and most effectual remedy yet known, and the utility of which has been confirmed in various instances, is the application of a blister to the *os sacrum*, or lowermost part of the back-bone. It commonly produces the desired effect in twenty-four hours.

An incontinence of urine frequently occurs to children, otherwise healthy, when asleep. It is often merely the effect of laziness, and may be checked by proper correction; but sometimes it is a real infirmity, and proceeds from a weakness of the sphincter of the bladder.

Of a Suppression of Urine.

A suppression of urine may proceed from a variety of causes, and it differs in its symptoms according to the parts which are the original seat of the disorder. It may be occasioned by an inflammation of the kidneys or bladder; gravel or small stones obstructing the urinary passages; a spasm or contraction of the neck of the bladder; hard fæces lying at the bottom of the rectum; a distension of the hæmorrhoidal veins; pregnancy, &c.

When the cause of the suppression exists in the kidneys, there is a pain and uneasy sensation of weight in the region of the loins, unaccompanied with a fullness about the bladder, or any desire of making water. When the ureters are the part affected, there is a sense of pain or uneasiness in the course of those ducts, with the same exception as in the preceding case. When the complaint proceeds from the bladder, there is a tumor or distension of the lower part of the belly, attended with pain of the neck of the bladder, and a frequent desire to make water. When the cause of the suppression is in the urethra, there is a pain in some part of that passage, accompanied with the symptoms last mentioned.

When there is not a total suppression of urine, but it is discharged in drops, accompanied with pain, the disease is called a strangury. This likewise may proceed from various causes, such as an inflammation about the neck of the bladder, pressure, a stone in the bladder, a discharge of mucus, or slimy matter, &c.

Cure.—In all suppressions of urine, bleeding is proper, so far as the patient's strength will bear it. The body should also be kept open by gentle purgatives, such as manna, senna, the electuary of senna, and the like; or rather by softening clysters, which, at the same time that they keep the body open, have the effect of an internal fomentation, and tend greatly to alleviate the spasms of the bladder and the contiguous parts, which, if not the primary cause, always greatly aggravate a suppression of urine.

The patient having been bled, warm fomentations, made with mallows and chamomile-flowers, ought to be frequently applied, or the person be put into a warm bath up to the middle of the body.

In most of the suppressions of urine, a spasm or constriction of the urinary passages is either an original or accessory symptom, and in both cases the use of opiates is of advantage.

In suppressions of extreme urgency, the last resource is the catheter for drawing off the water; but the management of this instrument requiring surgical dexterity, a more proper expedient for general use is a hollow bougie, which may be introduced into the urethra more easily.

During this complaint the diet should be of a light kind, and taken in small quantities. The drink may be weak broth, linseed-tea, or a decoction of marsh-mallows; and to whatever of this kind is used, a tea-spoonful of the spirit of nitrous æther should frequently be added.

Gravel and Stone.

These are calculous concretions, to which, in many constitutions, the urinary passages are subject. When small stones or sand are discharged with the urine, the person is said to have the gravel. But if any of these, by long retention in the bladder, acquire such a size as to be incapable of expulsion, the complaint receives the name of the stone.

They are both most frequent to persons in the decline of life, especially those who have been long afflicted with the gout.

CAUSES.—High living, and a sedentary life, with the free use of strong astringent wines, are frequently the causes both of the gravel and stone. They may also be occasioned by a continued use of water impregnated with earthy or stony particles; astringent aliments; and lying on too soft a bed, or too much upon the back, by which means the kidneys sustain a pressure injurious to the regularity of their function.

SYMPTOMS.—The existence of small stones or gravel in the kidneys gives rise to a pain in the loins, sickness, vomiting, and, sometimes, bloody urine. When the stone descends into the ureter, and is too large to pass with ease through that canal, all these symptoms are increased; the pain extends along the course of the duct towards the bladder; the thigh and leg of the affected side are benumbed; the testicles are drawn upwards, and the urine is obstructed in its passage.

A stone in the bladder is known from a weight in that part, and a pain at the time as well as before and after making water; from the urine being discharged in drops; or stopping suddenly in the midst of the evacuation. There is also pain in the neck of the bladder upon motion, especially on horseback, or in a carriage on a rough road; in consequence of which the urine is often bloody. There is likewise frequently a white, thick, and copious sediment in the urine, an itching at the top of the yard, and an inclination to go to stool during the discharge of urine. The patient passes his urine more easily when lying than in an erect posture. The existence of a stone in the bladder may also be known from a kind of convulsive motion occasioned by a sharp pain in discharging the last drops of urine; and it may be fully ascertained by sounding, or searching, with the catheter.

Cure.—In a fit of the gravel, as it is called, which is occasioned by the difficult passage of a small stone or sand from the kidneys down to the bladder, the patient must be bled, softening clysters administered, and warm fomentations applied to the part affected, with the use of diluting and mucilaginous liquors. But this subject has been already treated under the articles of inflammation of the kidneys and bladder, to which the reader is referred.

A late celebrated physician and professor of medicine, Dr. Whyte, recommends to persons who are subject to frequent fits of gravel in the kidneys, but have no stone in the bladder, to drink every morning, two or three hours before breakfast, an English pint of cockle-shell lime-water. In support of this advice, he observes, that though this quantity might be too small to have any sensible effect in dissolving a stone in the bladder, yet it may very probably prevent its enlargement.

When a stone is formed in the bladder, the same eminent author advises the use of Alicant soap, and oyster, or cockle-shell, lime-water, to be taken in the following manner: The patient must swallow every day, in any form that is least disagreeable, an ounce of the internal part of Alicant soap, and drink three or four English pints of oyster or cockle-shell lime-water. The soap is to be divided into three doses: the largest to be taken fasting in the morning early; the second at noon; and the third at seven in the evening; drinking, after each dose, a large draught of the lime-water; the remainder of which he may take any time betwixt dinner and supper, instead of other liquors.

The person should begin with a smaller quantity of the lime-water and soap than that mentioned above: at first, an English pint of the former, and three drachms of the latter, may be taken daily. This quantity, however, he may increase by degrees, and ought to persevere in the use of these medicines, especially if he finds any abatement of his complaints, for several months; nay, if the stone be very large, for years.

The medicine now chiefly used for the stone, is the caustic alkali, or soap-lees; which may be prepared by mixing two parts of quick-lime with one of pot-ashes, and suffering them to stand till the lixivium be formed, which must be carefully filtrated before it is used. If the solution does not take place readily, a small quantity of water may be added to the mixture. This medicine being of an acrid nature, it ought to be given in some mucilaginous liquor, such as linseed-tea, a decoction of marsh-mallow roots, or a solution of gum-arabic. It is proper that the patient begin with small doses of the lees, such as thirty or forty drops, and increase, by degrees, as far as the stomach can bear it.

An objection generally made to the use of soap-lees is the acrimony with which it is endowed, and the bad effects which may therefore result to the constitution from the long-continued use of it. When this consideration weighs much with the patient, he may have recourse to other means, which are found in many cases highly serviceable. Great benefit has been experienced from an infusion of the seeds of the *daucus sylvestris,* or wild carrot, sweetened with honey, in cases where the stomach could not bear any thing of an acrid nature. The leaves of the *uva ursi,* known in this country by the name of bear's whortleberry, or trailing arbutus, which, though inferior to the soap and lime-water, is less disagreeable, and has in many instances proved useful. It may be taken either in powder or infusion. The dose of the powder is commonly from half a drachm to a whole drachm, two or three times a day; but it may be used in larger quantity. In the other form, three drachms of the leaves may be infused for some hours in a pint of boiling water, and, after straining, the patient may take a wine-glassful two or three times a day The dose of this may also be increased. A decoction of raw coffee-beans, taken morning and evening, in the quantity of half a pint, or upwards, with ten drops of dulcified spirit of nitre, has been found efficacious in discharging by urine large quantities of earthy matter in flakes. Honey, likewise, taken in gruel, marsh-mallow tea, or any other way more agreeable to the patient, is ascertained to be of considerable advantage. The muriatic acid, or spirit of common salt, taken in doses of from 12 to 16 drops in any agreeable vehicle, has lately been found an efficacious remedy: so has the aërated soda-water; or soda in any form.

Those who are afflicted with the gravel or stone should be attentive to their manner of living. They ought to avoid aliments that are hard of digestion, flatulent, or of a heating nature. Mutton, veal, or lamb, are preferable to beef or pork. Fish, in general, may constitute a proper article of their diet; and all the vegetables which promote the secretion of urine, and keep the belly open, such as artichokes, asparagus, spinnage, parsley, succory, celery, onions, leeks, &c. are serviceable. The most proper drinks are whey, milk and water, barley-water; decoctions or infusions of the roots of marsh-mallows, liquorice, linseed, &c. Malt liquors, if not stale, may likewise be used, but all wines and spirituous liquors are hurtful. If any thing of this kind may be used with safety, it is gin and water, which, when not too strong, may prove of advantage by its diuretic quality.

Gentle exercise is in these complaints advisable; but violent motion ought to be avoided, on account of its tendency to occasion bloody urine. It is common for persons habitually subject to the gravel to pass a great number of stones after riding on horseback, or in a carriage; but these kinds of exercise can seldom be endured by those who have a stone in the bladder. A sedentary life, however, ought not to be indulged where there is any degree of tendency to these complaints.

CHAP. XXXVIII.

Bleeding at the Nose, Vomiting of Blood, and Bloody Urine.

SPONTANEOUS discharges of blood frequently happen from various parts of the body, but most commonly from those cavities which communicate with the external air. They are, however, not always to be regarded as dangerous: for, on several occasions, they not only carry off both acute and chronic diseases, but preserve the constitution from others, which perhaps might prove fatal. People ought, therefore, to be cautious of immediately stopping the discharges, especially such as are periodical. It is only when they are immoderate, or continue so long as to weaken the person, that they ought to be restrained.

One of the most frequent hæmorrhages is bleeding at the nose, which is particularly common in the early period of life. It is generally preceded by a flushing in the face, heaviness in the head, dimness of sight, pulsation of the temporal arteries, with heat and itching of the nostrils.

To those who have a redundancy of blood, this evacuation may be serviceable; frequently curing a disorder of the head, and sometimes an epilepsy. It is often particularly beneficial in fevers, where there is a great determination of the blood towards the head. In inflammations of the liver and spleen it is also advantageous; as likewise in the gout and rheumatism. And what shows the superiority of nature in curing diseases, a spontaneous discharge of blood from the nose is of more service than the same quantity let with a lancet, where bleeding is necessary.

From what has been said, it will readily be thought a point of consequence to determine, on any such emergency, whether a bleeding of the nose should be stopped. When this discharge happens in an inflammatory disease, there is reason to hope that it may prove salutary; and it will therefore be prudent to let it proceed while the patient is not thereby weakened.

When this bleeding happens to persons in perfect health, and who abound with blood, it ought not to be suddenly checked, lest fatal effects might ensue, by the rupture of some internal blood-vessel, or an extravasation in the brain. But when the discharge continues till the pulse becomes weak, the lips pale, and the patient complains of being sick or faint, it ought to be instantly stopped.

In this case, the patient should be placed nearly upright, with his head a little reclined, and both his legs and hands put into water, of the natural heat of the body, or that of milk when it flows from the vessel of the cow. His garters ought to be tied a little tighter than usual; and ligatures, likewise, with nearly the same degree of tightness, applied to the arms, as practised in bleeding with the lancet. These are to be gradually slackened as the blood begins to stop, and removed entirely as soon as the evacuation ceases.

Cold metal, or cold water, applied to the back of the neck, or genitals, will frequently stop the discharge. Sometimes dry lint put up the nostrils will produce the same effect. When this does not succeed, dossils of lint, dipped in brandy or strong vinegar, may be used for the same purpose. Other applications, frequently used, are blue vitriol dissolved in water, white vitriol in the same manner, or a tent dipped in the white of an egg, well beat up, and rolled in a powder, either singly or jointly, of white sugar, burnt alum, and white vitriol, and put up the nostril from which the blood issues.

In a spontaneous and violent bleeding of the nose, the necessity of an immediate stoppage does not admit a recourse to astringent medicines taken internally, as their slow operation would render them ineffectual on so urgent an emergency. It may, however, be proper that the patient take a cooling purgative, consisting of half an ounce, or six drachms, of Glauber's salts, and the same quantity of manna dissolved in warm water. Half a scruple of nitre may also be taken in a glass of cold water and vinegar, every hour, or oftener if the stomach will bear it. If a stronger medicine be required, twenty or thirty drops of the diluted vitriolic acid may be taken every hour in a tea-cupful of the rose infusion. From ten to twenty drops of the oil of turpentine in a little water, given frequently, has a powerful effect in restraining hæmorrhages of this kind. Where things cannot be procured, the patient may drink a mixture of equal parts of water and vinegar, or water in which a little common salt is dissolved.

It sometimes happens that, when the discharge of blood is stopped outwardly, it forces its way through the nostril into the top of the throat, and endangers suffocation, especially if the patient falls asleep, to which he is very liable after losing a great quantity of blood. In this situation, to prevent the blood from getting into the throat, the passages should be stopped by drawing threads up the nostrils, and bringing them out at the mouth, afterwards fastening pieces of sponge, or small rolls of linen cloth, to their extremities; then drawing them back, and tying them on the outside sufficiently tight. The moxa, brought from the East Indies, is a powerful styptic, and so is the spirit of turpentine, externally applied. Of all internal remedies to restrain hæmorrhagy, none is so powerful as acetated cerusse, which may be given in doses of a grain, with three grains of opiate confection, every four hours, for six times.

When the bleeding is stopped, the patient ought to be kept easy, and as free from disturbance as possible, lying with his head a little raised; and he should not pick his nose, nor remove the tents, or clotted blood, till they fall off of their own accord.

Those who are subject to frequent bleeding at the nose ought particularly to avoid getting cold, or wet in the feet; or if by accident they have incurred it, they ought to bathe their feet in warm water. The collar of their shirt, their stock, or cravat, should all be easy on the neck, and they should never view any object obliquely; as such an attitude obstructs the return of the blood from the head, and thereby favours a renewal of the hæmorrhage, if not a still more dangerous effect. If they be of a sanguine constitution, and liable to a redundancy of blood, they may abate this disposition by a vegetable diet, and the occasional use of some cooling purgative.

Sometimes hæmorrhages proceed from a thin dissolved state of the blood; in which case the diet ought to be rich and nourishing, consisting of light animal food, with mild vegetables, lemons, jellies, tapioca, &c. with the moderate use of wine. Milk, if it agrees with the stomach and bowels, is in such constitutions beneficial. In respect of medicine, the use of the Peruvian bark, in any form least unpalatable to the patient, with elixir of vitriol, will be found of advantage.

Vomiting of Blood.

This discharge is generally preceded by pain of the stomach, and sickness, with great anxiety, and frequent fainting fits; but with no cough where the stomach alone is concerned. It is an accident more common to women than men, and generally owes its origin to obstructed catamenia. When it occurs in men, a suppression of the hæmorrhoidal discharge is usually the prelude. It is often the effect of obstructions in the liver, or some of the other bowels; and may be occasioned both by any thing acrid taken into the stomach, and by external violence. However alarming this symptom may appear, it is not only frequent with hysteric women, but seems even not to be dangerous.

The patient's food should be weak broths, taken cold in small quantity, mixed with the expressed juice of the leaves of plantain, and the infusion of red roses. Drinking cold water alone has sometimes been found of great service, but it will prove more effectual when sharpened with the diluted vitriolic acid. Opiates may be useful, but must be given in small doses; such as four or five drops of laudanum twice or thrice a day, or the acetated ceruse with opium. This disorder might be obviated at the very beginning by immediately letting blood from the arm; but after a considerable discharge from the stomach, the patient's strength hardly admits of the expedient. When the discharge has ceased, a few gentle purges will be proper, to alleviate the gripes which commonly succeed, and may be supported by the acrimony of the putrid blood remaining in the intestines.

Bloody Urine.

In this complaint the blood may issue from any part of the urinary passages below the vessels which secrete the urine in the kidneys. When pure blood is voided suddenly, without either pain or interruption, it may be judged to proceed from a dilatation of the vessels of the kidneys. But if the discharge be in small quantity, of a dark colour, and accompanied with heat and pain about the bottom of the belly, there is every reason for thinking that it issues from the bladder. If the complaint be attended with a sharp pain in the back, between the region of the kidneys and the bladder, we may presume that it is occasioned by a rough stone descending through the duct named the ureter. When bloody urine is attended with an acute pain about the bladder, and a previous stoppage of urine, there is ground for concluding that the coats of the bladder have been hurt by a stone.

Bloody urine may likewise proceed from a stone lodged in the kidneys, from ulcers in the bladder, or from sharp diuretic medicines, particularly cantharides. It may also be occasioned by venereal excesses, falls, bruises, hard riding, or carrying of heavy burdens. Sometimes this discharge proceeds from a redundancy of blood, accumulated by repletion, or the stoppage of some other evacuation. The complaint is never entirely void of danger, but the result of it is most to be apprehended when the urine is mixed with purulent matter, as this evinces the existence of an ulcer in the urinary passages.

If the disorder be accompanied with a plethora, or fulness of blood, either with or without symptoms of inflammation, bleeding will be necessary. The body must at the same time be kept open by softening clysters, or cooling purgative medicines, such as cream of tartar, manna, rhubarb, or senna.

When the cause of bloody urine is a dissolved state of the blood, the complaint is the effect of a general indisposition of the habit, which requires to be corrected. The cure, in this case, depends on the free use of the Peruvian bark and acids.

When the disorder is owing to a stone in the bladder, there is no other method of affording relief but by performing the operation of lithotomy, which is the business of a surgeon.

Where the symptoms justify a suspicion that there is an ulcer in the urinary passages, the patient must use a cool diet of the vegetable kind, and his drink should be of a soft balsamic quality, such as decoctions of marsh-mallow roots, with liquorice, linseed-tea, solutions of gum-arabic, &c. Two ounces of marsh-mallow roots, and half an ounce of liquorice, may be boiled in three English pints of water to a quart; dissolving in the strained liquor half an ounce of gum-arabic, and three drachms of nitre. Of this the patient may take a tea-cupful every three hours during the day.

An early use of astringent medicines is not advisable in this complaint, as the discharge being stopped before the vessels are relieved from a superabundance of fluids, the grumous blood thence arising may produce inflammations, abscess, and ulcers. In great urgency, however, recourse may be had to gentle astringents. The patient may take thrice a day half a gill of lime-water with a table-spoonful of the tincture of Peruvian bark.

CHAP. XXXIX.

Menstrual Discharge, with the Obstruction and immoderate Flux of it.

It is ordained by nature, that females, when they reac the age of puberty, should generate more blood than i necessary for the support of their own bodies, as a provision for the *fœtus* during its continuance in the womb. But i is necessary for the preservation of their health that th overplus be periodically discharged. Such, therefore, i the source of menstruation, which, commencing about th age of fifteen, and terminating towards fifty, makes its appearance usually every month during that period, unles when pregnancy suspends the discharge. About the firs appearance of this evacuation the constitution undergoes a considerable change, generally for the improvement o the health, but sometimes operating otherwise. It is an important epoch in the life of females, and upon their conduct at this period the state of their health afterwards in a great measure depends. Indeed an attention to the management of themselves is not only necessary in the first menstruation, but in all its subsequent returns.

At this critical time of life, if a girl be confined to the house, kept constantly sitting, and employed in no active business which promotes the circulation of the blood, she becomes relaxed, the natural functions are impaired or obstructed, and the whole of her appearance shows a manifest declension of health—the fatal consequences of inactivity and imprudent indulgence, at a time when the process of nature required to be assisted by exercise and the invigorating quality of fresh air.

Besides the pernicious effects of indolence, whether voluntary or constrained, unwholesome food is particularly hurtful to girls at this period of life. Nor is this often so much the effect of necessity, as of their own inclination; indulging themselves in all manner of trash, by which their digestion is impaired, and, instead of wholesome chyle to afford proper nourishment to the body, the fluids are every day more corrupted by the accession of crude humours. Hence ensues not only an obstruction of the *menses*, that important discharge so intimately connected with health.

but a train of evils, general and local, which never fail to accompany this event.

One practice, which formerly proved extremely injurious to young females, is now happily abolished; I mean that of tight lacing, by which their stomach and bowels were squeezed to a degree that impeded their natural functions; but, as the present interdiction proceeds only from fashion, than which nothing is more variable or capricious, it is uncertain whether the rising generation may not yet experience the baneful effects of that obsolete practice which proved detrimental to the health of their mothers and grandmothers.

The flow of the menses is generally preceded by symptoms which announce its approach. These are, a sense of heat, weight, and dull pain in the loins; distension and hardness of the breasts; lassitude, loss of appetite, paleness of the countenance, head-ach, and sometimes a slight degree of fever. On the appearance of these symptoms about the age at which the menstrual flux usually begins, every thing which may obstruct that salutary evacuation should be carefully avoided, at the same time that endeavours should be diligently used to promote it. Wholesome diet, not flatulent, exercise, and cheerfulness, are all conducive to this purpose; and if she sit frequently over the steams of warm water, and foment the belly with a decoction of chamomile flowers, and the leaves of penny-royal, the process of nature will be facilitated.

When the expected discharge has made its appearance, great care should be taken to avoid every thing by which it might be checked, or the stomach and bowels disordered. All meats of hard digestion, fish, acid and austere fruits, butter-milk, whatever is liable to sour upon the stomach, or chill by its coldness, must be particularly guarded against; as well as every thing else which, from experience, is found to disagree with the individual.

An object likewise of great importance at this time, is to avoid catching cold; such an accident being attended with great danger. All great affections of the mind, such as sudden surprises, frights, violent passions, particularly grief and anger, are also extremely prejudicial; and nothing, on the contrary, is more favourable at this period than cheerfulness.

When, unfortunately, the discharge is obstructed, exclusive of the state of pregnancy, all the means above recommended, respecting diet, exercise, &c. should be carefully observed; and if the person be feeble and languid, some generous liquor ought to be taken to invigorate the efforts of nature. But if this regimen prove ineffectual for recalling the discharge, it will be necessary to employ the aid of medicine.

When obstructions are occasioned by a relaxed habit of body, the proper remedies are those which brace the solids, promote digestion, and give force to all the powers by which the natural functions are conducted. The preparations of iron, the Peruvian bark, and bitter stomachic medicines, are the best adapted for this purpose, and may be taken in various forms, as is most agreeable to the patient. The following composition will in this case be used with great advantage. Take of filings of iron, two ounces; Peruvian bark roughly powdered, and the outer rind of Seville oranges, each one ounce: infuse them for a week or ten days in a quart of Lisbon wine, and then filter the tincture. About half a wine-glassful of it may be taken twice a day.

In women of a gross and full habit of body, and where the obstruction proceeds from a viscid state of the fluids, it is necessary to bleed, to give once in three or four days a gentle purge of Glauber's salts or senna, and in the intervals such medicines as attenuate the humours. In this case, a tea-spoonful of the tincture of black hellebore, taken twice a day in a cup of pennyroyal-tea, is generally productive of good effect. The patient ought to take sufficient exercise, and to bathe her feet frequently in warm water; living at the same time on a spare thin diet, and avoiding the use of strong liquors.

When obstructions proceed from violent transports, or great affections of the mind, they never can be removed before the return of tranquillity. To forward this purpose, a change of place, amusements, and cheerful company, are of great importance; and every soothing means should be used to allay the inordinate emotion.

Though an obstruction of the *menses* proceeds for the most part either from constitutional causes, or accidents, yet it is frequently the effect of other disorders, the removal of which is necessary, previous to any efforts for promoting the sexual discharge. In this case, the method of cure will fall under some concomitant malady different from obstruction, but the nature of which can only be ascertained from examining the state of the patient.

In obstinate obstructions of the *menses,* small doses of calomel, or other mercurials, are frequently of great use; as is likewise electricity, directed in the form either of sparks or small shocks about the region of the womb. Another efficacious remedy, particularly in a difficulty of the first menstruation, is, after taking a vomit of ipecacuanha, to sit, during its operation, in a warm bath, where the water comes up to the middle of the body. It ought to be observed, that, in general, the artificial efforts to restore or promote the menstrual flux are most successfully made at the approach of its expected return.

Immoderate Flux of the Menses.

The quantity of the menstrual discharge depending in general upon that of the blood, it is different in different women, but may, at an average, be estimated about two ounces. When the quantity therefore is much beyond this proportion, especially if the discharge returns more frequently than it ought, or the duration of it exceeds the usual period, the flux may be considered as immoderate. In this case, the patient becomes weak and pale, her digestion, as well as appetite, is impaired, and an œdematous swelling gradually occupies her feet and legs.

The period at which women are most exposed to this disorder is betwixt the age of forty-five and fifty, when the menstrual evacuation usually ceases. The disorder may proceed from relaxation, or a dissolved state of the blood; from a sedentary life, or excessive fatigue; a full diet, especially of salted or high-seasoned food; the use of spirituous liquors; violent affections of the mind, &c.

The treatment of this complaint, in particular cases, must depend upon the cause which produces it; and this being fully ascertained, the patient must adopt such a course as is directly calculated to oppose its operation. In the mean time she must lie in an horizontal posture, with her head low, and be kept perfectly quiet, both in body and mind.

She must likewise use a cool slender diet, such as veal or chicken broths, with bread; and take every three hours a cupful of a decoction of tormentil root, in which an ounce and a half of the root powdered is boiled in three pints of water to a quart. This, when strained, may be rendered more palatable by the addition of a little sugar. If costiveness attend, it ought to be removed by gentle laxatives, such as the electuary of senna, taken in the quantity of a nutmeg two or three times a day.

If this course should not prove effectual, recourse may be had to other astringent remedies. Take of gum-kino, half a drachm; alum, one drachm and a half; gum-arabic, two drachms: powder them all together, and divide the whole into eight doses; of which the patient may take one every four hours, with a cup of the infusion of roses; taking likewise, two or three times a day, ten drops of laudanum, if there appear any signs of irritability, or the acetated cerusse with opium.

If the alum, even in the moderate quantity above mentioned, should disagree with the stomach, the patient may take, instead of that composition, half a drachm of the powder of Peruvian bark, with ten drops of the elixir of vitriol, in a glass of red wine, four times a day.

Astringents may likewise be used externally in the way of fomentation; and large compresses of linen, dipped in cold water and vinegar, may be applied to the belly and loins, and frequently renewed.

In full plethoric habits, bleeding may sometimes be proper in an immoderate flux of the menses, but is seldom necessary. If the disorder arises from a cancerous state of the womb, which may be conjectured from a long continuance of the complaint, a darting deep-seated pain about that part, and a bearing down, the case is attended with great danger.. If any thing can here afford relief, it is the use of hemlock, as formerly recommended in the treatment of such a disease.

It was observed above, that the commencement of menstruation is an important period in the life of a female; and the same may be said of the term at which it finally ceases. So much is the health affected by the suppression of a long-accustomed discharge, that many women either fall into chronic diseases, or die about this time. But if they survive it without contracting any tedious ailment, their health becomes more stationary, and they acquire a degree of constitutional strength that subsists to a very advanced age. The alternative is more or less critical in proportion as the cessation of the discharge is sudden or gradual. When the former is the case, in women of a full habit of body, they ought to retrench a little their usual quantity of food, especially the more nourishing kind, such as flesh, fish, eggs, jellies, &c. They should also take daily sufficient exercise, and keep the body open, by the occasional use of a few grains of rhubarb or aloes. Five grains of either of these may be made into pills with an equal quantity of Castile soap, and taken at bed-time.

In women of a gross habit of body, the cessation of the menses is frequently followed by swellings in the legs, and other parts, which usually become ulcerous. These discharges ought either to be left open, or issues substituted in their place: for some acute or chronic disease is generally the consequence of suppressing them.

CHAP. XL.

Fluor Albus or Whites, Pregnancy, Child-birth, and Barrenness.

THIS is a discharge of matter, variable both in colour and consistence, from the womb and vagina; and is most incident to women of relaxed constitutions, who have borne many children. It is distinguished into two kinds; one which arises from a general weakness of the solids, and another in which the debility is confined to the womb, in consequence of a suppression or immoderate flux of the *menses*, frequent miscarriages, hard labours, or a strain of the back or loins.

When this disease has continued for any considerable time, it produces general debility, loss of appetite, indigestion, faintness, palpitation of the heart, and, commonly, a pain in the loins. If, however, it be moderate, it may be borne a long time without much inconvenience; though in some women it occasions barrenness, and in others a propensity to miscarriage.

When the disease arises from a general relaxation of the body, we must endeavour to strengthen it by diet, exercise, and medicines. The food should be solid and nourishing, but of easy digestion; and the most proper drink is red port wine, mixed with Tunbridge, Pyrmont, or Bristol water, or with lime-water. A milk diet alone has often been found of great advantage; but it is more efficacious when mixed with a fourth part of lime-water. The patient should abstain from tea, as well as lying too long in bed;

and ought to ride daily on horseback. Dancing, however, is hurtful; as also much walking, and a standing posture of body long continued.

In respect of medicines, the Peruvian bark, with elixir of vitriol, is preferable to every other remedy. Half a drachm of bark may be taken twice a day in a glass of port wine: premising, however, a gentle puke, if the stomach be foul. In summer, sea-bathing, or bathing even in fresh water, is highly advantageous.

When the disorder is occasioned by a partial, rather than a general weakness, astringent remedies may be applied to the part affected, by means of a womb-syringe. For this purpose, the patient may use green tea, filtered smiths' forge-water, or common water, in half a pint of which two drachms of alum are dissolved. It will be proper likewise, in this case, to apply a strengthening plaster to the small of the back. Cold spring-water pumped on the loins, or a blistering plaster applied to the bottom of the spine or back, are both very powerful in their effects, and have sometimes succeeded after other remedies had been tried in vain.

As women, from motives of false delicacy, often entrust themselves to the management of empirics, who are equally bold and ignorant in their practice, it is a circumstance of the utmost importance to distinguish a fresh venereal infection, called gonorrhœa, from the *fluor albus*, or whites; for if one be mistaken for the other, the most pernicious consequences may ensue*. The following are the surest signs for ascertaining this necessary distinction.

In the gonorrhœa, the discharge chiefly proceeds from the parts contiguous to the urinary passage, and continues whilst the *menses* flow; but in the whites it issues from the cavity of the womb and its passage, and then the *menses* are seldom regular.

In gonorrhœa, an itching, inflammation, and heat of urine, are the fore-runners of the discharge; the orifice of the urinary passage is prominent and painful, and the patient is affected with a frequent irritation to make water. In the whites, the discharge is attended with pains in the loins, and loss of strength; and if any inflammation or heat of urine follow, they happen in a less degree, and only after a long continuance of the discharge, which, becoming sharp and acrimonious, excoriates the surrounding parts.

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* See the Chapter on the Venereal Disease.

In gonorrhœa, the discharge appears suddenly; but in the whites it comes on more slowly, and is often produced by irregularities of the *menses*, frequent abortion, strains, or long-continued illness.

In gonorrhœa, the discharge is usually greenish or yellow, less in quantity, and not attended with the symptoms of weakness. In *fluor albus*, it is also often of the same colour, especially in bad habits of body, and after long continuance; but is usually more offensive, and redundant in quantity.

During this disease, costiveness should be prevented by taking occasionally eight or ten grains of rhubarb, or three tea-spoonfuls of castor oil.

Pregnancy.

This, though not a disease, is apt to be attended with a variety of complaints, which sometimes require the use of medicine. Women during pregnancy are often subject to the heart-burn, the treatment of which has been mentioned in a former chapter*. In the more early stage of pregnancy, they are likewise often troubled with sickness and vomiting, especially in the morning, immediately after getting out of bed. This is owing partly to the change of posture, but more to the emptiness of the stomach; and may generally be prevented by taking some light breakfast in bed. The propensity to vomiting, in the state of pregnancy, is commonly cured by keeping the body gently open. Bleeding, if used, ought to be in small quantities at a time, and the purgatives should be only of the mildest kind, such as manna, senna, or its electuary, stewed prunes, &c. If the vomiting still continue, a saline draught, taken in the act of effervescence, is of remarkable efficacy in stopping it. It may be compounded as follows, and repeated every two hours, if necessary. Take of the salt of tartar or wormwood, half a drachm; lemon-juice, two table-spoonfuls; mint-water, and simple cinnamon-water, each two table-spoonfuls; with a bit of loaf sugar.

Both the head-ach and tooth-ach are also very frequent with pregnant women; besides several other complaints, for the treatment of which we refer to the respective articles.

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* See Chap. XVI, p. 237.

Abortion.

Abortion is an accident to which every pregnant woman is more or less liable, and it ought to be more carefully avoided, not only as it weakens the constitution, but is apt to introduce a habit by which a future pregnancy may terminate in the same way. Abortion may happen in any period of gestation, but is more frequent in the second or third month. If it happens within the first month, it usually receives the name of a false conception; if after the seventh month, the infant may often be kept alive by proper care. Abortions are seldom dangerous in the first five months; but a repetition of them, by weakening the system, lays the foundation of chronic diseases of the most obstinate and dangerous nature.

The usual causes of abortion are violent exercise; jumping, or stepping from an eminence; violent coughing; blows on the belly; superabundance of blood; living too high or too low; indolence; relaxation; the death of the child; violent passions, &c.

The approach of abortion may be known from a pain in the loins, or about the bottom of the belly, with a dull heavy pain along the inside of the thighs, a slight shivering, sickness, and palpitation of the heart. The breasts subside, and become flaccid or soft, the belly sinks, and there ensues a discharge of blood, or watery humours from the womb.

As soon as any signs appear which threaten an abortion, the woman ought to be laid on a mattrass, with her head low; where she should be kept as quiet and comfortable as possible, but not too hot; nor should she take any thing of a heating nature. Her food ought even to be cold, and of a kind the most remote from exciting any agitation in the body; such as broths, jellies, gruel, rice-milk, and the like; and her drink should be barley-water, sharpened with the juice of lemon.

If her strength be able to bear it, eight or ten ounces of blood should be drawn from her arm; but no medicines need to be given, unless to obviate particular symptoms. Thus, if she should be seized with a violent looseness, she ought to use the decoction of hartshorn as common drink. If with a vomiting, she may take the saline draught above recommended, every two hours. In this case, ten drops of laudanum may likewise be given three or four times a day; especially if the cause of the complaint has been any violent agitation of the mind.

Women of a sanguine constitution, who are liable to miscarry at a certain time of pregnancy, ought always to be bled a few days before the period arrives. They ought likewise to live sparingly, and be kept quiet until that term has elapsed.

If a pregnant woman be weak, delicate, and nervous, she will find great benefit from a light infusion of Peruvian bark and the outer rind of Seville oranges in white wine. The use of Tunbridge water, or other such chalybeate, will also prove serviceable. The most effectual remedy, in relaxed habits disposed to miscarriage, is the cold or shower-bath, which, however, must not be indiscriminately used in the pregnant state. But when the patient has been accustomed to it, she may safely continue it for some months after conception.

Child-birth.

Most labours, being natural, child-birth is commonly effected with safety; but improper treatment after delivery may give rise to various disorders. During actual labour, the woman ought to take nothing of a heating nature; confining herself for food to panada, and for drink to plain toast and water. If the labour prove tedious and difficult, it will be proper to bleed, for the purpose of preventing inflammation. An emollient clyster ought likewise to be frequently administered, and the patient should sit over the steams of warm water. The passage ought to be gently anointed with a little soft pomatum or fresh butter, and cloths wrung out of warm water applied over the belly. If the patient be much exhausted with fatigue, so that nature seems to sink, a draught of generous wine, or some other cordial, may be given, but only in such circumstances.

After delivery, the woman ought to be kept as quiet and easy as possible. Her food should be light and thin, such as gruel, panada, and the like; and her drink weak and diluting. But to this general rule there are many exceptions: for to some women in child-bed it is necessary to administer a glass of wine, and a little of the lightest animal food, such as a chicken. Much depends, in this case, upon the present circumstances, and the former habits of the patient.

Sometimes a flooding, or great discharge of blood, happens after delivery. In this case, the patient ought to be laid with her head low, kept cool, and be treated in the same manner as for an excessive flux of the *menses**. She may take every two hours two table-spoonfuls of the following mixture. Take of pennyroyal-water, simple cinnamon-water, and syrup of poppies, each two ounces; elixir of vitriol, a drachm. Mix them. At the same time linen cloths, wrung out of a mixture of equal parts of vinegar and water, or red-wine, should be applied to the belly, the loins, and the thighs. These must be changed as they grow dry, and the use of them discontinued as soon as the flooding abates.

If the delivery be succeeded by violent pains, the patient ought to drink plentifully of warm diluting liquors; and take every two hours a drachm of spermaceti in a cup of them; to which, if she be restless, a table-spoonful of the syrup of poppies may be added. Should she be hot or feverish, a scruple or half a drachm of nitre, if her stomach will bear it, may likewise be taken every four hours.

Child-bed women are sometimes attacked with an inflammation of the womb after delivery. This is a dangerous disease, and requires the most speedy application. The existence of it may be ascertained by pains in the lower part of the belly, which are greatly increased upon touching; a constant fever, with a weak and hard pulse, great weakness, sometimes incessant vomiting, an inclination to go frequently to stool, a heat, and sometimes a total suppression of urine.

This disease is to be treated, like other inflammations, by bleeding and plentiful dilution; taking frequently through the day a scruple or half a drachm of nitre, as recommended above. Clysters of warm milk and water should be given every four or five hours; and cloths wrung out of warm water be applied to the belly.

In the same manner must be treated the milk-fever, and a suppression of the *lochia*, or usual discharge after delivery. Plentiful dilution, gentle evacuations, and fomentations of the parts affected, are in all these cases the safest and most proper means of cure. In the milk-fever, the breasts may be anointed with a little warm linseed oil. The child likewise should be often put to the breast, or it should be drawn by some other person; and, in those women who do not suckle their own children, this practice should be continued at least for a month after delivery.

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* See page 321.

When an inflammation happens in the breast, the practice is common to apply emollient and anodyne fomentations, and poultices to the part affected, both to give ease to the patient, and to hasten the formation of matter. But this method begins to be rejected by practitioners the most conversant with the treatment of women in child-bed. Instead of it, Dr. John Clarke, in particular, recommends the use of a solution of lead, constantly applied cold to the part inflamed, even though it should be the whole of the breast. What he advises is a solution of acetated cerusse, or sugar of lead, in two ounces of distilled vinegar; to which may be added an ounce of rectified spirit of wine, and five ounces of distilled water.

In an inflammation of the breast, if the patient be of a strong constitution, and the symptoms of fever run high, bleeding from the arm will be necessary, and also evacuation by purging, so as to procure two or three stools every day; at the same time that the patient's diet must be of the lowest and most cooling kind. Blood should likewise be taken away from the breast by the application of three or four leeches to the part.

These evacuations having been made, the solution of lead ought to be applied; the advantages of which are the following:

1. The cold repels the blood from the part, which is farther assisted by the astringent quality of the lead, and hence the inflammation is lessened.

2. The breast is not weakened; so that if an abscess should be formed, it will sooner be filled up with healthy granulations.

3. If the inflammation should be diminished, the woman will suffer less pain, and the constitution will be less affected.

4. Matter will either be not formed at all, or, if formed, it will be in less quantity, which will shorten the duration of the disease.

If there should be much pain, it will be proper to give fifteen or twenty drops of laudanum in a saline draught, every six hours.

If this plan be adopted at an early period, and pursued with punctuality, the inflammation will often be altogether suppressed; but if it be practised too late to produce complete resolution, the extent of the suppuration will b very much lessened.

When the nipples are tender or chapped, they may b anointed with a mixture of oil of olives and bees'-wax; or what is frequently used, a little powdered gum-arabic may be sprinkled on them.

The most fatal disorder consequent upon delivery is th puerperal or child-bed fever; but this having been the subject of a former chapter, we shall say nothing farther of i in this place; observing only, in general, that with respec to child-bed women, nothing is of greater importance than to avoid catching cold.

One other circumstance deserves to be particularly mentioned. A practice is still very prevalent among persons in the middle and lower stations of life; which is that o taking during labour a variety of substances rendered stimulating by being impregnated with spices, wine, or spirits. Nothing can be more false in principle, nor more destructive in its tendency. If a labour be going on well, there can be no occasion for them, and if ill, they are much more likely to do harm than good. If they do any thing, they will most certainly increase the action of the heart and arterial system beyond that degree which the mere exertions of labour will produce; and this increased action will not subside when the woman is delivered. If there were any previous disposition to fever in her body, nothing is so likely to bring it into activity; and though the labour alone might not stimulate the constitution beyond what it could bear,—or, in other words, though the increased circulation arising from the exertions of the womb might gradually go off after delivery,—yet if such means have been employed as tend still farther to increase the action of the vascular system, a fever may be the consequence; and how dangerous this will prove to the life of the woman it is unnecessary to say.

Barrenness.

Though this may be regarded rather as a negative than a positive affection, yet it implies a disposition of body distinct from that of health; and, in fact, we find that most married women who have no children are generally subject to complaints. Where barrenness arises from any natural defect of the womb, it may not admit of a cure; but it seems to proceed most commonly from general relaxation, which may be occasioned by indolence, high living, debilitating passions, unwholesome air, and other circumstances.

That one of the most powerful causes of barrenness is high living, appears to be confirmed, not only by the general fecundity of women in the lower stations of life, but by the prolific effects of a change of diet upon the constitutions of those of rank and fortune. Were we, therefore, to prescribe the method of living most favourable to procreation, it would be to use a diet consisting chiefly of milk and vegetables; to take sufficient exercise in the open air; to preserve the mind as much as possible in a state of tranquillity and cheerfulness; to make use of an infusion of the Peruvian bark; and to drink of some chalybeate waters, such as those of Bath, Spa, and Tunbridge. But a partial, as well as general, relaxation being often the cause of sterility, nothing proves more effectual for removing it than the use of the cold or shower-bath, which in this case particularly should always be used in the morning.

CHAP. XLI.

Disorders of the Senses.

TO enter upon a minute description of the organs of sense could not afford any useful information to the reader. It will therefore be sufficient to give a concise account of the diseases to which they are most liable, and point out the means by which these may be best prevented or removed.

The Eye.

The curious and complicated mechanism of the eye renders this organ subject to a variety of diseases extremely difficult to be cured; and it is affected by causes, respecting the influence of which no other part of the body is susceptible. Certain modes of life conduce greatly to weaken and wear out the eyes, or at least to render them too irritable. This is particularly observable among those classes of people who are employed in sedentary occupations, are much exposed to dust, or who work by candle-light, &c.

The eyes are hurt by looking too much at bright and luminous objects; the effluvia from acrid or volatile substances; a long-continued use of bitters; an immoderate use of the cold-bath; excessive venery; head-ach, and various other disorders; but, above all, by night-watching, and candle-light lucubrations. Excess of every kind is prejudicial to the sight, particularly the immoderate use of strong liquors. Long fasting is another circumstance hurtful to the eyes; as is likewise the stoppage of any customary evacuation; with frequent and sudden transitions from darkness, or obscure degrees of light, into that of sunshine, or he glare of a number of candles.

In all diseases of the eyes, the food should be of easy digestion; and the drink, water, whey, or small-beer. Spirituous liquors ought to be carefully avoided; and all irritation from smoke of every kind; the vapours of onions, garlic, mustard, and horse-radish; or from vivid lights and glaring colours.

For preventing disorders of the eyes, issues or setons are of great advantage; insomuch that persons whose eyes are tender ought never to be without one of these, at least, in some part of the body; but the arms, or superior parts, are most advisable. To keep the body gently open is also useful.

The disease of the eye called a *gutta serena*, or *amaurosis*, is a deprivation of the sight without any perceptible fault or imperfection in the eyes. When this arises from a decay of the optic nerve, it admits of no cure; but when it proceeds from a compression only of the nerves by a redundancy of fluids, there may be a possibility of draining these off, and consequently restoring the patient's sight. In this case the body ought to be kept open by some gentle laxative; and if the patient be young, and of a sanguine habit, he may be bled. Cupping, with scarifications on the back part of the head, will likewise be advisable. A draining of the humours by the nose may be promoted by volatile salts or spirits, stimulating powders, &c. But the most promising means of evacuation are issues or blisters on the back part of the head, behind the ears, or on the neck, kept open for a long time.

If these means should not succeed, a trial may be made of the effects of salivation by mercury; and likewise of electricity. In the mean time, the patient may take two or three times a day a cup of an infusion of the root of wild valerian.

A *cataract* is an opaque substance obstructing the pupil, such a manner as either to impair or totally destroy the ght. This blemish is generally owing to an opacity of the rystalline humour. In the early stage of a cataract, the eans to be used for relief are the same as in the gutta rena; and they will sometimes produce the desired effect; ut when every hope of success is frustrated, recourse may e had to the extraction of the cataract, after it has become ufficiently firm to admit of that operation.

Specks or *spots* on the eyes are frequently the consequence f inflammation. These often appear after the small-pox, e measles, or violent opthalmias, and are very difficult of ure. If the specks, however, are soft and thin, they may ometimes be removed by gentle caustics and discutient pplications. In this case, the common remedy is white itriol. When such means prove of no benefit, the only maining expedient is a surgical operation, extremely nice the performance, and no less doubtful in the issue.

A *blood-shot* eye may be occasioned by external violence, r by vomiting, coughing, &c. and occurs most frequently scrofulous or scorbutic habits. It goes off for the most art spontaneously, changing gradually into a yellowish olour, and soon after totally disappears. If it should prove bstinate, the patient may be bled, and the eye fomented ith warm milk; then applying to the part a soft poultice f bread and milk. In the mean time, the body should be ept open by some gentle laxative.

The *watery* or *weeping eye* proceeds from a relaxation of e glandular parts of that organ, which therefore require be strengthened. For this purpose the eye may be washed ith common water sharpened with brandy; or with rose-ater in which a very small quantity of white vitriol is dislved. Gentle purgatives are here also proper, as well as listers on the neck kept open for some time. This comlaint, no less than the blood-shot eye, is attendant on a rofulous habit. When it proceeds from an obstruction of e lachrymal duct, the natural passage of the tears into the ose, it receives the name of a *fistula lachrymalis*, for which e only remedy is a surgical operation.

A *strabismus*, or *squinting*, proceeds from a contraction of e muscles of the eye, in consequence either of a nervous fection, or a vitious habit; but when owing to the former, is seldom uniform, or of long duration. Children often ontract this habit by having their eyes unequally exposed to the light; and they may likewise acquire it by imitation from a squinting nurse or play-fellow, &c. Perhaps the only expedient for correcting it is to furnish the child with a mask, which will only permit him to see in a straight direction.

The *myopia,* or *short-sightedness*; and the *presbyopia,* or *seeing only at a great distance;* are disorders which depend on the original conformation of the eyes, and are therefore incurable. They may both, however, be in some measure remedied by the help of proper glasses; the former by means of a concave, and the latter of a convex glass. All glasses used to assist vision are thought to require some effort of the eyes; and, unless they be indispensably necessary, it is better not to employ them at an early period of life.

The Ear.

The ear, like the eye, is admirably constructed for the function to which it is destined; but cannot be exempted, any more than the other, from disorders incident to every organized body. It may be injured by wounds, inflammations, ulcers, or any thing that greatly affects its substance. The sense of hearing may likewise be hurt by various causes, such as fevers, violent colds in the head, excessive noise, too great a degree of moisture or dryness of the organ, and hard wax, or other substances obstructing the cavity of the ear. Some degree of deafness is incident to most people in an advanced age; but when it exists from the birth, it is owing to an original defect in the structure of the ear, and is commonly incurable. Several persons, however, have lately been restored to, and others presented with, the sense of hearing, by an operation on the tympanum, or drum—first, I believe, recommended by Mr. Ashley Cooper.

The deafness arising from old age is difficult of cure, as is, likewise, that which is the consequence of wounds or ulcers. When it is the effect of a fever, it commonly goes off with the disease. If it be occasioned by wax sticking in the passage of the ear, the offending matter may be removed by dropping into the ear a little oil of sweet almonds, and afterwards syringing with warm milk and water. But the most frequent cause of deafness is cold in the head. In this case, the patient should be careful to keep his head warm, especially in the night. He ought, likewise, to keep his feet warm, and bathe them frequently tepid water at bed-time; taking occasionally some gen- e purgative to keep the body open,

When the ears abound too much with moisture, it may drained off by an issue, or seton, which ought to be put near as possible to the part affected. In this case, like- ise, it is proper to keep the body open.

When deafness proceeds from a deficiency of moisture in e ears, which may be known from looking into the pass- ge, a few drops of a mixture made of two parts of oil of veet almonds, and one part of the compound tincture of stor, may be put into them every night at bed-time, opping them afterwards with a little cotton or wool.

A noise in the ears is a frequent complaint, and, when it oceeds not from cold in the head, may be considered as a rvous affection, and treated accordingly. It may, how- er, be frequently relieved by conveying into the ears, rough a funnel, the vapours of aromatic plants, such as yme and sweet marjoram, &c. infused for a quarter of an ur in hot water. Or, instead of this, introduce into the rs a few drops of a mixture made of equal parts of oil sweet almonds, compound tincture of lavender, and tinc- re of castor.

A variety of applications has been recommended for the re of deafness, none of which can prove useful against ery cause of that complaint, and many of them may even prejudicial. In all cases of deafness, however, it is of portance to keep the head [illegible] the feet.

Taste and Smell.

There is so great an affinity between these two senses, at whatever hurts one of them generally affects the other; d both are liable to be impaired by excessive gratification. he principal organ of taste is the tongue, which is pro- ded with innumerable nerves, terminating in *papillæ,* or ninences, of different sizes and figures; some of them inted, some oblong, and others of a fungous texture.

The different degrees of taste depend on the greater or ss sensibility of the nervous papillæ, above mentioned, as ell as on the quality of the saliva, in a more or less healthy ate of the body. When this sensibility is blunted by too rong and highly seasoned food, or by the copious use of irituous liquors, the sense of taste no longer exists in its rmer and original perfection.

The sense of smell is exercised by the nose, and chiefly by the mucous membrane which lines that organ. Th whole inside of the nose is covered with this membran which is a continuation of the general integuments of th body, but much softer and porous, full of vessels exquisitel sensible, and covered with hair towards the lower part o the nostrils, to prevent any impurities or noxious particle from ascending too far.

In many animals the sense of smelling is more acute tha in man, who would probably be much incommoded by to refined a perception of this kind. But it may be much improved by exercise, or depraved by neglect. Hence th American Indian can discover the footsteps of a man o other animals by smell alone; while persons who live in bad and fœtid atmosphere are scarcely sensible of the difference between the most fragrant and offensive substance This sense is much injured by taking great quantities o snuff.

Both these senses, when habitually stimulated by fragran and poignant dishes, become in the end incapable of relishing the gratifications of luxury; but when impaired by othe causes than excessive indulgence, they may by prope means recover their former acuteness.

The *taste* may be diminished by filth, mucus, aphthæ, &c covering the tongue: it may be depraved by a fault of th saliva, or by impure effluvia from the stomach or lungs; an it may be entirely destroyed by local injuries, and nervou [illegible] of the tongue and palate. A violent cold in th head will vitiate or abolish for a time both the senses o tasting and smelling.

When the taste is obstructed by filth, mucus, &c. th tongue ought to be wiped with a linen cloth, and frequentl washed with some detergent application, such as a mixtur of water, vinegar, and honey. But when it is depraved b any fault of the saliva, that circumstance must be corrected If there be a bitter taste, which affords reason to suspec the existence of bile in the stomach, it must be evacuate by vomits and purges. A nidorous taste, arising from putri humours, must be opposed by acids, such as the juice o oranges, lemons, and citrons. An acid taste is destroyed b absorbents and alkaline salts, such as magnesia, soda, kali and chalk, &c. And a salt taste may be extinguished b sufficient dilution with watery liquors.

When the nerves which actuate the organs of taste ar impaired in respect of sensibility, the chewing of ginger o other stimulating substances, is advisable; but this expedient will prove most successful where the person has not been much accustomed to the use of spiceries.

When the sense of smelling is obstructed by mucus in the nose, the cause may frequently be removed by a plug of tobacco, or the steam of hot vinegar received up the nostrils.

When the nose abounds with moisture, the complaint is best cured by keeping the body open, and supporting the natural perspiration.

If there be reason to think that the defect proceeds from a torpid state of the nerves which supply the organs of smelling, volatile salts, strong snuffs, and whatever excites sneezing, may be applied to the nose.

Of the Touch.

While all the other senses have each its appropriate organ, that of *touch* is universally diffused over the surface of the body. In order to understand more clearly the means by which this sense is conducted, it may not be improper to give here a concise description of the external integuments of the human body.

These integuments consist of three different layers; the uppermost of which, the epidermis, or scarf-skin, is the thinnest, and is nearly transparent. It envelops the whole body, both externally and internally. This covering is of essential service to the whole frame, by protecting the parts enclosed from external injury, by preventing them from adhering internally, and by keeping every thing in the body in its proper situation. It is destitute of sensation, but possessed of the property, that it is very quickly renewed after it has been destroyed by accident or disease.

Immediately under this covering there lies a second reticular and mucous membrane, termed by anatomists *rete mucosum*. It is in most parts of the body extremely thin, but on the heels and palms of the hands it is considerably thicker.

This second envelopment merits particular attention, as being the seat of the colour of different nations; though the cause of this diversity remains yet undiscovered. In the Negroes it is black; in the American Indians nearly of copper-colour; and in the Europeans generally white. That the colour of the human body is contained in this second or middle skin is sufficiently ascertained; for not only the third or true skin of the negroes is as white as in t Europeans, but the uppermost, or scarf-skin, likewis though rather of a grayish tint, is scarcely darker in blac than in white people; and in the latter also the midd skin is frequently of a yellowish, brown, or blackish colou in which case the whole external skin exhibits a similar a pearance.

The third and innermost of the integuments of the bod is the *cutis vera*, or true skin, which immediately covers t fat and the muscles. It is of a cellular texture, very con pact and smooth on its upper surface; of a white colour all nations; loose or pliable on its inner surface, and fu nished with more or less fat. It is not only endowed wi a considerable degree of expansibility and contractilit but is provided with innumerable pores. Its thickness v ries in different individuals. It is traversed by a great nun ber of fine arteries interwoven in the form of a net; wit an equal number of veins, and delicate absorbent ve sels.

From the many nerves which pervade the true skin, possesses an uncommon degree of sensibility, especially i those parts where the *papillæ* of the nerves are perceptibl In some places, as the lips, they are not unlike flake though they generally resemble little warts. They ar most visible on the ends of the fingers in delicate persons they can be traced with the naked eye, by the spiral line terminating almost in a point, and are protected and sup ported by nails growing out of the skin. It is in thes papillary extremities that every external impression is mos distinctly and forcibly perceived, on account of the num ber of nerves lying almost exposed to view in thes places.

When the nervous papillæ are pressed against externa objects, the nerves receive a kind of vibration, which i communicated to their branches, and thence to the brain Thus we are enabled to feel the hardness, roughness figure, size, and other sensible qualities of bodies. Bu that this feeling may not become painful, nature ha provided another cover, namely, the scarf-skin, whic serves the important purposes of excluding the air fro the true skin, and preventing the body from being to much dried. The nails increase the energy of touch, an render the sense of it more acute, by resisting the pressur of external substances.

The sense of touching, being seated at a greater distance from the brain than the other senses, is more liable to experience an obstruction of the nervous influence from external causes. It may therefore be affected by pressure, extreme cold, bruises, inflammations, &c. It may also suffer from too great a degree of sensibility; which renders its unctions not only indiscriminate, but painful. When there exists no evident cause of the defect, it may justly be ascribed to some latent disorder affecting the origin of he nerves; and ought to be treated in nearly the same manner as a palsy, of which it may, in fact, be considered as a modification. After opening the body by some gentle purgative, the stimulating medicines and outward pplications recommended for the palsy may be used. Warm bathing likewise, especially in the natural hot baths, is advisable.

CHAP. XLII.

Of the Itch.

THIS disease generally appears in the form of small atery pustules, first about the wrists or between the ngers; afterwards affecting the arms, legs, thighs, and ther parts. The source of it, originally, is want of cleanness, which produces animalcula, or very small insects, the skin; and these, by irritating the fibres in the places here they are lodged, occasion the violent itching which ives name to the disease.

The itch is communicated by infection; either from the nimalcula themselves getting from the affected to the ound person, from touching any soft substance where ey may be lodged, or from the person receiving upon the in some of the *ova* or eggs, which being rubbed into the rrows, and lying there some time, may produce animalla.

The itch is seldom a dangerous disease, unless it be neg- cted or treated improperly; but, if suffered to continue, may vitiate the whole mass of humours; and, if suddenly pelled, or driven in, without proper evacuations, it may ve rise to fevers, inflammations of some of the bowels, other internal disorders.

For the cure of this disease different remedies are commended, such as the vitriolic acid, and some preparations of quicksilver; but experience confirms th nothing is preferable to sulphur. This ought to be us both externally and internally. Two ounces of the flowe of sulphur may be made into an ointment with four ounce of hog's lard, or butter, and two drachms of crude sal an moniac, or the root of white hellebore. If half a drachm o the essence of lemon, or oil of bay-berries, be added, will entirely take away the sulphureous smell, which t delicate people is offensive. Of this ointment, about th bulk of a nutmeg may be rubbed upon the arms, legs, an thighs, at bed-time every night. If any other parts be a fected with the disease, they likewise may be rubbed but it is seldom necessary to apply the ointment to th whole body. If the patient be of a full habit, it will b proper to bleed, or take one or two purges before the ap plication of the ointment; during the use of which, it wi also be proper to take, every night and morning, as muc of the flowers of sulphur and cream of tartar, equally mixed as will keep the body gently open. This laxative mixtu may be taken in a little treacle, or new milk. The patien should beware of catching cold while he uses the ointmen should be more thickly covered than usual, and take ever thing warm. Except the linen, it will be better to wea the same clothes during the use of the ointment; and suc clothes as have been worn while the patient was under th disease, must not be used again until they are fumigate with brimstone, and thoroughly cleansed. The quantity o ointment mentioned above will generally be sufficient fo the cure of one person; and, when this is completed, h ought to wash his body with soap and water; or, if it b summer, to bathe in a river for that purpose.

Some eruptive disorders, to which children are liabl have a great similarity to the itch; but care should be take not to treat them in the same manner; for, those eruptio being often salutary, the application of greasy ointmen might be productive of pernicious effects.

Few persons escape some cutaneous eruption, or affec tion of the skin, either in spring or autumn; and young ladie are often induced to employ various washes, lotions, an cosmetics; by which many excellent constitutions hav been irreparably injured. The only innocent cosmetics, o beautifiers of the skin, are exercise in the open air, th warm bath, Harrowgate-bath, a decoction of the dulcamar or bitter-sweet, or the inner bark of the elm, an ounce to pint of water; or, lastly, soap and water.

CHAP. XLIII.

Surgery.

T would be inconsistent with the plan of a work of this ature to describe the various operations of surgery. All at is required is to give a concise and clear account of e proper treatment of such cases as may be managed ithout professional education for the purpose, and which ay occur where the assistance of a surgeon cannot readily e obtained.

Bleeding.

The most common operation of surgery is that of bleed- g; the knowledge of rightly performing which, is only be acquired by example. Were we to judge of this peration by the frequency and facility with which it is ractised, we should be apt to conclude that it was a atter of very little importance; whereas, in fact, there is one that more affects the constitution, and even life itself, cording as it is either neglected on one hand, or carried excess on the other.

This operation is proper at the beginning of all inflamma- ry fevers, such as pleurisies, peripneumonies, &c. It is al- proper in all topical inflammations of internal parts, such those of the stomach, intestines, &c.; and likewise in e apoplexy, asthma, rheumatisms, coughs, violent head- hs, and other disorders, proceeding either from too great quantity of blood, or an impediment to its circulation. leeding is no less necessary after falls, blows, bruises, any violent hurt received externally or internally; as it likewise in cases of suffocation from foul air, strangu- tion, &c. But in all disorders proceeding from a relaxed bit of body, and a vitiated state of the fluids, bleeding is jurious.

In topical inflammations bleeding ought to be performed near the part affected as possible; and, in general, the st method of doing it is by a lancet: but where a vein can- t be found, recourse must be had to the application of eches, or cupping.

Leeches.

Previous to the application of leeches, the skin should b
carefully cleansed from any foulness, and moistened with
little milk, by which means they fasten more readily, an
this farther promoted by allowing them to creep upon a dr
cloth, or a dry board, for a few minutes before applicati
The most effectual method to make them fix upon a particula
spot, is to confine them to the part by means of a sma
wine glass. As soon as the leeches have separated, th
usual method of promoting the discharge of blood i, t
cover the parts with fine linen cloths wet in warm wate
But if the blood should continue to flow from the orific
made by a leech, longer than is desired, as has happened, i
some instances, to children, who have been nearly lost b
the inability of the attendants to stop the discharge; afte
carefully washing off the blood, the point of the finge
should be pressed moderately upon the orifice, and afte
wards a compress be kept upon it for a little time.

Cupping.

When, either from the severity of a local fixed pai
or from any other cause, it is judged proper to evacuat
blood directly from the small vessels of the part affecte
instead of opening any of the larger arteries or veins, it
usual, besides leeches, to employ scarification and cuppin
Slight scarifications may be made with the shoulder o
edge of a lancet; or by means of an instrument termed
scarificator; in which sixteen or twenty lancets are com
monly placed, in such a manner that, when the instrumen
is applied to the part affected, the whole number of lance
contained in it are, by means of a strong spring, pushe
suddenly into it, to the depth at which the instrument ha
been previously regulated. This being done, as th
smaller blood-vessels only, by this operation, are intende
to be cut, and as these do not commonly discharge freel
some means or other become necessary for promoting th
evacuation. Various methods have been proposed for thi
purpose; glasses fitted to the form of the affected parts, wit
a small hole in the bottom of each, were long since con
trived; and these being placed upon the scarified parts,
degree of suction was produced by a person's mouth suffi

ient for nearly exhausting the air contained in the glass. This method accordingly increased the evacuation of blood a certain extent; but as it was attended with a good deal f trouble, and did not always prove effectual, an exhausting syringe was at last adapted to the glass, by means of which the contained air was extracted. The application f this instrument however, for any length of time, is very roublesome; and it is difficult to preserve the syringe lways air-tight.

The application of heat to the cupping-glasses has been ound to rarefy the air contained in them to a degree sufcient for producing a very considerable suction; and this xpedient, therefore, is now employed instead of the synge.

Different methods have been practised for applying heat the cavity of the glass. By supporting the mouth of it r a few seconds above the flame of a taper, the air may be ufficiently rarefied; but if the flame be not kept exactly in he middle, but allowed to touch either the sides or bottom f the glass, the latter is very apt to be cracked. A more ertain, as well as an easier method of applying the heat is, dip a piece of soft bibulous paper in spirit of wine, and, aving set it on fire, to put it into the bottom of the glass; nd, on its being nearly extinguished, to apply the mouth of e instrument directly upon the scarified part. This degree f heat, which may be always regulated by the size of the iece of paper, and which, it is evident, ought to be always proportion to the size of the glass, if long enough applied, roves sufficient for effectually rarefying the air, and at the ame time, if done with any manner of caution, never inres the glass in the least.

The glass having been thus applied, if the scarifications ave been properly made, they instantly begin to discharge eely; and, so soon as the instrument is nearly full of blood, should be taken away. This may easily be done by raisg one side of it so as to admit the external air. When ore blood is desired to be taken, the parts should be bathed ith warm water; and, being made perfectly dry, another lass, exactly the size of the former, should be instantly aplied in the same manner. Thus, almost any necessary uantity of blood may be obtained. It sometimes happens, owever, that the full quantity intended to be discharged annot be got at one place. In such a case, the scarificator ust be again applied on a part as contiguous to the former as possible; and, this being done, the application of the glasses must also be renewed as before.

When it is wished to discharge the quantity of blood as quickly as possible, two or more glasses may be applied at once on contiguous parts previously scarified; and, on some occasions, the quantity of blood is more quickly obtained by the cupping-glasses being applied for a few seconds upon the parts to be afterwards scarified. The suction produced by the glasses may possibly have some influence in bringing the more deep-seated vessels into nearer contact with the skin; so that more of them will be cut by the scarificator.

A sufficient quantity of blood being procured, the wounds made by the different lancets should be all perfectly cleared of blood; and a bit of soft linen, or charpie, dipped in a little milk or cream, applied over the whole, is the only dressing that is necessary. When dry linen is applied, it not only occasions more uneasiness to the patient, but renders the wounds more apt to suffer than when it has been previously wetted in the manner directed.

Dry-cupping consists in the application of the cupping-glasses directly to the parts affected, without using the scarificator. By this means a tumor is produced upon the part; and where any advantage is to be expected from a determination of blood to a particular spot, it may probably be more easily accomplished by this means than by any other.

When the part from which it is intended to produce a local evacuation of this kind is so situated, that a scarificator and cupping-glasses can be applied, this method is greatly preferable to any other; but in inflammatory affections o the eye, nose, and other parts of the face, &c. the scarificator cannot be properly applied directly to the parts affected. In such cases, therefore, the common recourse is to leeches, which can be placed upon almost any spo whence we would wish to discharge blood.

Issues.

These are a kind of artificial ulcers, formed in differen parts of the body, for the purpose of procuring a discharge of purulent matter, which is frequently of advantage in various disorders. Practitioners were formerly of opinion tha issues served as drains to carry off noxious humours from the blood; and therefore they placed them as near the affected part as possible. But as it is now known that they rove useful merely by the quantity of matter which they roduce, they are generally placed where they will occasion he least inconvenience. The most proper parts for them re, the nape of the neck; the middle, outer, and fore part f the shoulder; the hollow above the inner side of the nee; or either side of the back-bone; or between two of he ribs; or wherever there is a sufficiency of cellular subtance for the protection of the parts beneath. They ought ever to be placed over the belly of a muscle; nor over a endon, or thinly covered bone; nor near any large bloodessel. The issues commonly used are, the blister-issue, the ea-issue, and the seton or cord.

When a blister-issue is to be used, after the blister is renoved, a discharge of matter may be kept up by dressing he part daily with an ointment mixed with the powder of antharides or Spanish flies, or savin ointment. If the disharge be too little, more of the powder may be used; if too reat, or if the part be much inflamed, the issue ointment nay be laid aside, and the part dressed with basilicon, or vith common cerate, till the discharge be diminished, and he inflammation abated.

It is sometimes most proper to use the issue ointment and mild one alternately.

A pea-issue is formed either by making an incision with lancet, or by caustic, large enough to admit one or more eas; though sometimes, instead of peas, kidney-beans, entian-root, or orange-peas are used. When the opening made by an incision, the skin should be pinched up and cut hrough, of a size sufficient to receive the substance to be put nto it. But when it is to be done by caustic, the common caustic r lapis infernalis of the shops answers best. It ought to be educed to a paste with a little water or soft soap, to prevent from spreading; and an adhesive plaster, with a small hole ut in the centre of it, should be previously placed, and the austic paste spread upon the hole. Over the whole an dhesive plaster should be placed, to prevent any caustic rom escaping. In ten or twelve hours the whole may be emoved, and in three or four days the eschar will separate, vhen the opening may be filled with peas, or any of the ther substances above mentioned.

The seton is used when a large quantity of matter is vanted, and especially from deep-seated parts. It is freuently used in the back of the neck for diseases of the head or eyes, or between two of the ribs in affections of t breast.

When the cord, which ought to be made of threads cotton or silk, is to be introduced, the parts at which it to enter and pass out should be previously marked with in and a small part of the cord being besmeared with som mild ointment, and passed through the eye of the seto needle, the part is to be supported by an assistant, and th needle passed fairly through, leaving a few inches of th cord hanging out. The needle is then to be removed, an the part dressed. By this method matter is produced i quantity proportioned to the degree of irritation applied and this can be increased or diminished by covering th cord daily, before it is drawn, with an irritating or mil ointment.

Inflammations and Abscesses.

All inflammations, from whatever causes they proceed, ca terminate only in three ways, viz. by dispersion, suppuration, or gangrene. It is impossible to foretel with certaint in which of these three ways any particular inflammatio will terminate, yet a probable conjecture may be forme with regard to the event, from a knowledge of the patient' age and constitution. Slight inflammations from cold, an without any previous indisposition, will most probabl b dispersed; those which immediately succeed a fever, o happen to persons of a gross habit of body, will generally suppurate; and those which attack very old people, or persons of a dropsical habit, will have a strong tendency to a gangrene.

When the inflammation is slight, and the constitution sound, the treatment should always be adapted to produce a dispersion. The best means of promoting this end is the use of a slender diluting diet, sufficient bleeding, and repeated purges. The inflamed part should be fomented with a decoction of wormwood and chamomile flowers; anointing it afterwards with a mixture of three fourths of sweet oil, and one fourth of vinegar, and covering it with a piece of cerate, or wax-plaster.

By means of these applications, in the course of three or four days, and sometimes in a shorter space of time, the dispersion or resolution of the tumor will in general begin to take place; at least before the end of that period it may for the most part, be known how the inflammation will terminate. If the heat, pain, and other attending symptoms abate, and especially if the tumor begin to decrease, without the occurrence of any gangrenous appearances, we may then be almost certain that by a continuance of the same plan a total resolution will in time be effected.

If, on the contrary, all the symptoms rather increase, especially if the tumor grow larger, and somewhat soft, with an increase of throbbing pain, we may then with tolerable certainty conclude that suppuration will take place. The means which were used for dispersion must now be laid aside, and endeavours be exerted to promote suppuration.

For this purpose, flannels wrung out of any emollient fomentation ought to be applied to the part as warm as the person can bear them, continued half an hour at a time, and repeated every three or four hours.

Immediately after the fomentation is over, a large emollient poultice should likewise be applied warm, and renewed after every fomentation. Of all the forms recommended for emollient cataplasms, a common milk and bread poultice, with a small portion of fresh butter or oil, is perhaps the most eligible, as it not only possesses all the advantages of the others, but can in general be more easily obtained.

Onions, either roasted or raw, garlic, and other acrid substances, are frequently made use of as additions to ripening cataplasms or poultices. When there is not a due degree of inflammation in the tumor, the addition of such substances may be of service; but when stimulants are necessary in such cases, a small proportion of strained galbanum, or of any of the warm gums, dissolved in the yolk of an egg, and added to the poultices, is a more effectual application.

When the swelling is come to maturity and matter is formed, which may be known by a remission of all the symptoms, and generally likewise by a fluctuation, unless the abscess be thickly covered with muscles, it may be opened in the most prominent part either with a lancet, or by means of caustic, or seton. The first however seems preferable. In many cases nature will do the work herself, and abscesses, when superficially seated, will certainly burst of themselves; but where the matter lies deep, we are by no means to wait for this spontaneous opening; as before the purulent matter can break through the integuments, it may acquire such an acrimony as will prove prejudicial to healt It is, however, a general rule not to open abscesses till thorough suppuration has taken place: for, when laid ope before that period, and while any considerable hardness r mains, they commonly prove more troublesome, and seldo heal so kindly.

The last way in which an inflammation terminates, is i a gangrene or mortification, which makes known its ap proach by the following symptoms. The inflammation fro being red assumes a duskish or livid colour; the tension c the skin goes off, and it feels flabby; little bladders fille with a thin acrid fluid of different colours spread all over it the tumor subsides, and at length becomes black. Th pulse at this period is quick and low, cold clammy sweat break forth, and death in a short time ensues.

On the first appearance of these symptoms, the par ought to be embrocated with a solution of sal ammoniac i vinegar and water: a drachm of the salt to two ounces o vinegar and six of water, forms a mixture of a prope strength for every purpose of this kind; but the degree o stimulus can be easily either increased or diminished, according to circumstances, by using a larger or smaller proportio of the salt. In this case, the patient must be supported wit generous wines, and the Peruvian bark administered in a large doses as the stomach will bear. If the mortified part should separate, the wound will become a common ulcer and must be treated accordingly.

Wounds.

It is a prevailing though erroneous opinion, that particular and specific applications are necessary for the cure o wounds; while, in fact, neither herbs, ointments, nor plasters, contribute to this purpose in any other way than by keeping the parts soft and clean, and defending them from the influence of the external air. Dry lint alone, therefore, may be as usefully employed for producing the desired effect as any of the most extolled applications in the province of surgery.

Medicines taken internally are no less inadequate to accomplish the cure of wounds than those externally applied. It is nature alone that conducts the curative process in every division or loss of substance incidental to the solid parts of the human body; and medicines can only promote that object by removing whatever might obstruct or impede her salutary operations.

When a person has received a wound, the first thing which claims attention is to examine whether any foreign substance, such as lead, iron, glass, bits of cloth, or the like, be lodged in it. These, if possible, ought to be extracted, and the wound cleaned before any dressings be applied. But when the patient's weakness or loss of blood will not admit of the extraction immediately, the substances must be suffered to remain in the wound till he can bear their removal with more safety.

In wounds which seem to threaten the loss of life, the assistance of a surgeon is indispensable; but sometimes the discharge of blood is so great, that, if something be not done immediately to stop it, the person may expire before such assistance can be procured. It is therefore of importance to know what ought to be done in an emergency of this kind. If the wound be in any of the limbs, the application of a tight ligature or bandage round the member a little above the wound may generally stop the bleeding. To accomplish this object, the best expedient is to put a strong broad garter round the part, but so slack as easily to admit a small piece of stick to be put under it; which must be twisted, in the same manner as is practised by countrymen to secure their loading with a cart-rope, till the bleeding stops. But when this is effected, the garter must be twisted no longer, as straining it too much might produce an inflammation of the parts, and endanger a gangrene.

In parts where such a bandage cannot be applied, recourse must be had to other methods of stopping the hæmorrhage. Cloths dipped in styptic water, or in a solution of blue vitriol, may be applied to the wound. When these cannot be obtained, strong spirits of wine may be used for the purpose. The application of even common writing-ink might be attended with advantage. The agaric of the oak has been deservedly recommended for this purpose. The part to be used is that which lies immediately under the outer rind; and the only preparation it requires, is to be beat well with a hammer till it becomes soft and very pliable. A slice of it, of a proper size, is to be applied directly over the bleeding vessels. Where the agaric cannot be had, sponge may be used in its stead. Whether the agaric or sponge be employed, it ought to be covered with a good deal of lint, above which a bandage may be applied so tig as to keep it firm upon the part.

In slight wounds, which do not penetrate much deep than the skin, nothing better can be applied than the co mon black sticking-plaster. By keeping the sides of tl wound together, this prevents the admission of air, whic is all that is required for promoting the cure. But when wound penetrates deep, its lips must not be kept too clos as this would retain the matter, and might occasion a feste ing of the part. In such a case, the best method is to fill tl wound with charpie or caddis, which, however, ought n to be stuffed in too hard. This application may be cover with a cloth dipped in oil, or spread with the comm wax-plaster; and the whole must be retained by a prop bandage.

The first dressing should be allowed to remain for at lea two days; after which it may be removed, and fresh cadd or charpie be applied as before. If any part of the fir dressing adheres so close as not to be removed without o casioning pain and violence to the wound, it may be allov ed to continue, and some fresh materials of the same kin dipped in sweet oil, be laid over it. It will by this mea be so much softened, as to come off easily at the next dres ing. The wound may afterwards be dressed twice a-day the same manner till it be quite healed. Those who co sider this method as too simple, may, after the wound is b come very superficial, dress it with the ointment called ye low basilicum; and if any fungous or proud flesh, as it termed, should rise in the wound, it may be reduced b mixing with the ointment a little burnt alum, or red prec pitate of mercury.

When a wound is much inflamed, the best application a poultice of milk and bread, with a little sweet oil, or fre butter; which should be renewed every four hours.

In large wounds, and where there is reason to appr hend an inflammation, the patient ought to be kept on a lo diet; abstaining from flesh, strong liquors, and every thin of a heating nature. If he be of a full habit of bod and has lost but little blood from the wound, he must b bled; and that too a second time, should the sympton prove urgent. But if, on the contrary, he has been muc weakened by a great discharge of blood from the wound, would not be advisable to bleed him, even though a fev supervened: for, without sufficient strength, the powers of nature could not long maintain the struggle against the violence of the disease.

Persons labouring under severe wounds ought always to be kept, as much as possible, quiet and easy. Every thing that discomposes the mind is highly prejudicial; and nothing is more pernicious than an indulgence in venery. The patient's body, during the cure, should be kept gently open, either by clysters, or such articles in diet as prove laxative: for example, stewed prunes, boiled spinnage, roasted apples, and the like.

Burns and Scalds.

Various remedies are recommended for the treatment of these accidents; and it happens fortunately for the pressure of such an emergency, that some of the most common things are also the most useful on the occasion. The pain of burns and scalds may be instantly abated by immersing the part affected in cold water, or indeed in any cold fluid, or in spirits of wine. An excellent application likewise is vinegar, with or without powdered chalk in it. If the injury be on the fingers or hands, the application may be made by immersion; but if in any part where this would be inconvenient, the vinegar may be applied by means of linen rags dipped in it. In slight injuries, the vinegar, if early and assiduously applied, will of itself soon effect a cure; but should any degree of pain return, the immersion or fomentation must be repeated.

In recent burns or scalds, attended with large blisters, excoriations, or loss of substance, the vinegar ought to be applied till the pain nearly ceases, which generally happens within eight hours. Many practitioners recommend spirits of turpentine instead of vinegar; or lime-water and linseed-oil. The vinegar need not be employed longer than twelve hours, except on the outside of the sores, which, while they continue to be swelled or inflamed, should be fomented for a minute or two before they are dressed.

For dressing the sores which arise from burns or scalds, one of the best applications is a poultice of bread, water, and sweet oil. This should be removed in six hours, when the sores are to be covered with chalk finely powdered, till it has absorbed the matter, and appears quite dry. A fresh poultice must then be laid over the whole, which, with the sprinkling of the chalk, is to be repeated morning and evening till the sores are healed.

After the second or third day, if the sores be on a part of the body where it is difficult to keep the poultice from shifting, a plaster of cerate, thickly spread, may be used as a substitute in the day-time.

When there are large blisters upon the part, they should be opened with a lancet before the application of the vinegar; and the water they contain be pressed out with a linen cloth, that the vinegar may act more closely upon the burnt flesh, which in this case it does efficaciously. In severe cases, and in cold weather, the vinegar should be nearly blood-warm.

If the patient will not suffer the vinegar to be applied immediately to the surface, on account of the pain it excites, a linen rag soaked in sweet oil may be previously laid on the part, covering the whole with cloths dipped in vinegar; and these applications are to be occasionally repeated till the pain and inflammation be entirely removed; after which the parts should be dressed, or, if the burning be very deep, with a mixture of *that* and yellow basilicon.

When the burn or scald is violent, or has produced a high degree of inflammation, so that there is reason to be apprehensive of a gangrene, the same method of cure becomes necessary as in other violent inflammations. The patient, in this case, must be put upon a low diet, and drink plentifully of weak diluting liquors. He must likewise be bled, and his body be kept open. But if the burnt parts should become livid or black, with other symptoms of mortification, it will be necessary to apply to them camphorated spirits of wine, tincture of myrrh, and other antiseptics or correctors of putrefaction, mixed with a decoction of the Peruvian bark. In this case, the bark must likewise be taken internally; the patient at the same time using a more generous diet, with wine, spiceries, &c.

When burns are occasioned by the explosion of gunpowder, some of the grains of the powder are apt to be forced into the skin. At first, they produce much irritation; and, if they be not removed, they commonly leave marks which remain during life. They should therefore be picked out as soon as possible after the accident; and to prevent inflammation, as well as to dissolve any powder which may remain, the parts affected should be covered for a day or two with emollient poultices.

A strong solution of soap in water has long been in use ith artificers employed in any business exposing workmen , very bad scalds. This is allowed to be an excellent remedy. But, as the soap would take some time in dissolving, nd the solution some time in cooling, Dr. Underwood ecommends a mixture of six ounces of oil to ten of water, ith two drachms of the ley of kali, or pot-ash. This quantity may be sufficient for a burn on the hand or foot, which to be immersed, and kept about half an hour in the liquor, hich will remove the injury, if recourse to it immediately e had; but must be repeated, as the pain may require, if e scald or burn be of some standing.

The most useful application, we are told, with which milies can be provided against any emergency of this kind, a strong brine, made by placing sliced potatoes and common salt in alternate layers in a pan, allowing them to remain ntil the whole of the salt is liquefied; which must be then rained off, and kept in bottles, properly labelled, ready for immediate use.

Bruises.

As bruises exist in various degrees, they are to be treated ccordingly. In slight cases it will be sufficient to foment e part with warm vinegar, to which may be added occasionally a little brandy or rum, and to keep constantly pplied to it cloths wet with this mixture. But when a ruise is very violent, the patient ought immediately to be led. His diet should be light and cool, consisting chiefly f vegetables; and his drink weak, and of an opening nature, such as whey sweetened with honey, cream of tartar vhey, decoctions of tamarinds, &c. The bruised part must e fomented with warm vinegar and water; applying to it, fterwards, a poultice made by boiling crumb of bread, lder-flowers, and chamomile-flowers, in equal quantities of inegar and water. This poultice may be renewed two or hree times a day, and is particularly proper when the bruise s attended with a wound.

When a bruise is accompanied with violent pain, twenty-five or thirty drops of laudanum may be given, and repeated n a few hours, if necessary.

Ulcers.

An ulcer is a solution of the continuity in any of the softer parts of the body, discharging pus, sanies, or any other matter. They may happen in consequence of wounds, bruises, or imposthumes improperly treated; and may likewise proceed from a bad habit of body, in which the humours are depraved, by poor living, or a want of sufficient exercise.

When an ulcer discharges matter of a mild kind, and a good consistence, called laudable pus, it is in a fair way of healing in a short time; but if it be of long duration, the humour watery and acrid, and the edges callous or hard, the cure of it is generally extremely difficult and tedious. In fact, as ulcers of this description proceed from a bad habit of body, or venereal taint, it is more safe to refrain from attempting to heal them, until the constitution be improved by proper regimen, or medicines; and when such a change has taken place, they will be disposed to heal of their own accord.

Ulcers which have been occasioned by malignant fevers, or other acute diseases, may for the most part be safely healed after the patient's health is entirely re-established; though even then he must observe a proper regimen, and his body be kept open by gentle purgatives. The same caution must likewise be used, in respect of ulcers which accompany chronical diseases. It may be laid down as a general rule, that if during the continuance of an ulcer the person otherwise enjoys good health, it ought not to be healed, especially if it be of long standing; but if, on the contrary, the patient's strength sensibly declines, the cure of it should be promoted with all possible speed.

A strict attention to regimen is in no case more necessary than in the cure of ulcers. To promote it, the patient must be temperate in eating and drinking; must live chiefly on cooling laxative vegetables, avoid all high-seasoned food, and strong liquors; and for drink use butter-milk, or whey sweetened with honey. He ought also to take moderate exercise, and cultivate a cheerful disposition.

When the edges or any part of an ulcer are hard and callous, they may be sprinkled twice a day with a little red precipitate, and afterwards dressed with the yellow *basilicum* ointment. This is likewise done by touching them a few days with the lunar caustic. Some practitioners cut them off with a knife; but this is a painful operation, and not more efficacious.

Lime-water is often of great efficacy in the cure of obstinate ulcers: for which purpose it may be used in the same manner as directed with regard to the stone and gravel; and in all cases of obstinate ulcers, the Peruvian bark, plentifully administered, will be found of great advantage.

When ulcers are attended with great pain and inflammation, bleeding, and opening the body with purgatives, will often be serviceable; but, above all things, rest, and a horizontal posture; which last circumstance is of so great importance to the cure of ulcers in the legs, that, unless the patient strictly conform to it, the skill of the surgeon, however well directed, will often prove abortive: for, as the indisposition of these sores is in some measure owing to the gravitation of the humours downwards, it will be much more beneficial to lie along than sit upright, though the leg be laid on a chair; since even in this posture they will descend with more force than if the body was reclined.

CHAP. XLIV.

Dislocations, and Sprains or Strains.

WHAT is termed the dislocation or luxation of a bone, is the state in which that part of it which forms a joint is moved out of its place. When a bone is forced entirely out of a cavity, the dislocation is called *complete*; when this is not the case, it is *partial* or *incomplete*. That a bone is dislocated may be known from the inability to move the injured limb, or by comparing it with the same joint on the other side. The accident is likewise attended with pain, tension, and a deformity in the part affected; sometimes with inflammation, twitching of the tendons, and fever: but these three last are greatest in partial dislocations.

In whatever part a dislocation happens, it is of great consequence that it should be reduced as soon as possible, because the operation becomes extremely difficult, if indeed practicable, after the swelling and inflammation have come on. If any thing, therefore, calls for the immediate interference of a person not a professed surgeon, it is an accident of this kind; and there needs only common resolution to interpose with happy effect.

A recent dislocation may generally be reduced by extension, or simple pulling, alone, which must vary in degree, according to the strength of the muscles which move the joint, the age, vigour, and other circumstances of the patient. If the bone has been dislocated any considerable time, and a swelling or inflammation has come on, it will be necessary to bleed the patient, and, after fomenting the part with warm vinegar, to apply soft poultices to it, for some time before the reduction is attempted.

After reduction, there is seldom any difficulty in retaining the bone in its place, unless it has often been dislocated before. All that is necessary is to apply cloths dipt in vinegar or camphorated spirits of wine to the part, to place the limb in a relaxed posture, and keep it perfectly easy. If any degree of inflammation remain, the use of leeches is the best remedy.

To keep the limb in an easy posture, is a matter of the utmost consequence: for there seldom happens any dislocation without the ligaments and tendons of the joint being stretched, and sometimes otherwise injured. While these are kept easy till they recover their strength and tone, the amendment gradually advances; but if the parts be irritated by too frequent an exertion, they may remain debilitated ever after.

Dislocation of the Jaw.

The lower jaw may be luxated by yawning, blows, falls, chewing hard substances, or the like. This accident may be known to have taken place, from the patient's being unable to shut his mouth, or to eat any thing. The chin, likewise, either hangs down, or is wrested to one side; and the patient is neither able to speak distinctly, nor to swallow without considerable difficulty.

The common method of reducing a dislocated jaw is to place the patient upon a low stool, in such a manner that an assistant may hold the head firm by pressing it against his breast. The operator is then to push his two thumbs, protected with linen-cloths that they may not be bitten when the jaw slips into its place, as far back into the patient's mouth as he can, and then, with his fingers applied to the outside of the angle of the jaw, endeavour to bring it forward till it move a little from its situation. He should then press it forcibly downwards and backwards, by which means the clapsed heads of the jaw will immediately slip into their place.

In some parts of the country, the peasants perform this operation in the following manner; which, though sometimes successful, is doubtless attended with danger. One of them puts a handkerchief under the patient's chin; then, turning his back to that of the patient, pulls him up by the chin so as to suspend him from the ground.

Dislocation of the Neck.

This part of the body may be dislocated by falls. A complete dislocation of the neck is immediately followed by death; but for the most part the accident is only partial. In this dislocation, the patient is immediately deprived of all-sense and motion; his neck swells; his countenance appears bloated; his chin lies upon his breast, and his face is generally turned towards one side.

To reduce this luxation, the unfortunate person should immediately be laid upon his back on the ground, and the operator must place himself behind him, in such a manner as to be able to lay hold of his head with both hands, while he makes a resistance by placing his knees against the patient's shoulders. In this posture he must pull the head with considerable force, gently twisting it at the same time, if the face be turned to one side, till he perceives that the joint is replaced. This may be known from the noise which the bones generally make upon reduction, the patient's beginning to breathe, and the head remaining in its natural posture. After the dislocation is reduced, the patient ought to be bled, and should be suffered to rest for some days, till the parts recover their proper tone.

Dislocation of the Ribs.

The articulation of the ribs with the back-bone being extremely firm, a dislocation of this part is happily a very rare occurrence. When it does, however, take place, either upwards or downwards, in order to replace it, the patient should be laid upon his belly on a table, and the operator must endeavour to push the head of the bone into its proper place. If this method should not succeed, the arm of the dislocated side may be suspended over a gate or ladder, and, while the ribs are thus stretched asunder, the heads of

such as are out of place may be thrust into their for
situation.

Those dislocations in which the heads of the ribs a
forced inwards, are not only more dangerous, but the m
difficult to reduce, as no means can be applied interna
to direct the luxated heads of the ribs. Almost the on
thing that can be done is to lay the patient upon
belly over a cask, or some such body, and to move the for
part of the rib inward towards the back, sometimes shaki
it. By this means the heads of the luxated ribs may sl
into their former situation.

Dislocation of the Shoulder.

The humerus or upper bone of the arm is the most su
ject to dislocation of any in the body, and may be luxat
in various directions: the accident, however, happens mo
frequently downwards, but very seldom directly upwar
This dislocation may be discovered by the patient's inabili
to raise his arm, as well as by violent pain in attempting
and by a depression or cavity on the top of the should
When the dislocation is downward or forward, the arm
lengthened, and a ball or lump is perceived under the ar
pit; but when it is backward, there appears a protuberan
behind the shoulder, and the arm is thrown forwar
toward the breast.

The usual method of reducing a dislocation of the sho
der is to seat the patient upon a low stool, and to cause
assistant to hold his body firm, while another lays hold
the arm a little above the elbow, and gradually extends
The operator then puts a napkin under the patient's ar
and causes it to be tied behind his own neck. By th
while a sufficient extension is made, he lifts up the head
the bone, and with his hands directs it into its proper plac
In young and delicate persons, an operator may genera
reduce this dislocation by extending the arm with one han
and thrusting in the head of the bone with the other.
making the extension, the elbow ought always to be
little bent.

Dislocation of the Elbow.

The bones of the fore-arm may be dislocated in a
direction, but most commonly upwards and backwar
In this luxation, a protuberance may be observed on t
side of the arm towards which the bone is pushed; fr

hich circumstance, joined to the patient's inability to nd his arm, a luxation at the elbow may be known.

For reducing a dislocation at the elbow, two assistants e for the most part necessary: one of them must lay hold the arm above, and the other below, the joint, and make pretty strong extension, while the operator returns the nes into their proper place. The arm must afterwards bent, and suspended for some time with a sling about e neck.

Dislocations of the wrist and fingers are to be reduced in same manner as those of the elbow, viz. by making an tension in different directions, and thrusting the head of e bone into its place.

Dislocation of the Thigh.

When the thigh-bone is dislocated forward and down- ard, the knee and foot are turned out, and the leg is longer an the other; but when it is displaced backward, it is ually pushed upward at the same time, by which means e limb is shortened, and the foot is turned inward.

When the thigh-bone is displaced forward and down- ard, the patient, in order to its reduction, must be laid on his back, and made fast by bandages, or held by istants, while by others an extension is made by means slings fixed about the bottom of the thigh a little above knee. While the extension is made, the operator must sh the head of the bone outward till it gets into the ket. If the dislocation be outward, the patient must be upon his face, and, during the extension, the head of bone must be pushed inward.

Dislocations of the knees, ancles, and toes, are reduced ch in the same manner as those of the upper extremities, by making an extension in opposite directions, while operator replaces the bones. In many cases, however, extension alone is sufficient, and the bone will slip into place merely by pulling the limb with sufficient force. s not hereby meant, that force alone is sufficient for the uction of dislocations. Skill and dexterity will often ceed better than force; and one man who possesses them been able to perform what the united force of many was nd inadequate to accomplish.

CHAP. XLV.

Broken Bones, or Fractures.

TO reduce fractured bones properly demands, dou less, the skill and dexterity of an expert surgeon ; b where this cannot be obtained, the next object is, that t person who undertakes such a task should be furnished wi such information as may prove useful in assisting him ho to perform it. A few hints for this purpose may ther fore not be improper.

When a large bone is broken, the patient's diet ought, all respects, to be the same as in an inflammatory fev He should likewise be kept quiet and cool, and his bo open, either by means of emollient clysters, or food o laxative quality, such as stewed prunes, boiled spinnag &c. Persons, however, who have been accustomed to li high, must not be reduced all of a sudden to a very lo diet; as such a transition might be attended with the mo pernicious effects.

In general it is proper to bleed the patient immediat after a fracture, especially if he be young, of a full hab or has, at the same time, received any considerable bruis and if he continue feverish, the operation may be repeat next day. Blood-letting is peculiarly necessary when sev ral ribs are broken.

If any of the large bones which support the body are br ken, the patient must keep his bed for several weeks. The is, however, no necessity that he should lie all that time, usual, upon his back ; which is a situation extremely i some and incommodious. After the second week he m be gently raised up, and may sit several hours, support by a bed-chair, or the like, which will greatly conduce his refreshment. But care must be taken in raising him u and laying him down, that he make no exertions himsel otherwise the action of the muscles may be sufficient to d place the bone. It is likewise of great importance to ke the patient dry and clean while in this situation: for if finds himself uncomfortable, he will be perpetually chan ing his position for ease.

It has been a customary practice when a bone was br ken, to keep the limb for five or six weeks continually up the stretch. But this posture is both uneasy to the patient, and unfavourable to the cure. It is now admitted, that the best situation is to keep the limb a little bent; which may easily be done, either by laying the patient upon his side, or making the bed in such a manner as to favour this position of the limb.

In the treatment of a fracture, care should be taken to examine whether the bone be not shattered or broken into several pieces. In such a case it will sometimes be necessary to have the limb immediately taken off; otherwise a gangrene or mortification may be the consequence.

When a fracture is attended with a wound, the treatment of the latter is in no respect different from that of a common wound.

It is nature only that conducts the cure of a broken bone; and the utmost efforts of art are of no more avail than to lay it in its proper position, and keep it as much so as possible. All tight bandages are prejudicial. The best method of retention is by two or more splints, made of pasteboard, or strong leather. These, if moistened before they are applied, soon accommodate themselves to the shape of the included member, and are sufficient, by the assistance of a very slight bandage, to retain it in its place. The most proper bandage for the purpose is that made with twelve or eighteen tails; which is much easier applied and removed than rollers, at the same time that it is equally retentive. The splints should always be of the same length with the limb, and be furnished with holes adapted to receive the ancles, when the fracture is in the leg.

In fractures of the ribs, instead of a bandage, it may be preferable to apply a broad leather belt pretty tight, and continue it for some weeks.

In all cases of fractured bones, the most proper external application is *oxycrate*, or a mixture of vinegar and water, with which the bandages should be wet at every dressing.

Strains.

Strains, from being generally neglected, are often attended with worse consequences than broken bones. Under the latter circumstance, the patient is incapable of using the injured member; but, in the former, finding a possibility of motion, he endeavours to exercise it, and thereby increases the complaint.

It is a common practice among country people to immerse a strained limb in cold water; and this is a very proper remedy, provided it be done immediately, and not continued too long. But if a swelling comes on before recourse is had to the immersion, this expedient is, then, extremely improper; and, if it be continued too long, instead of bracing it greatly increases the relaxation.

Many external applications are recommended for strains some of which are beneficial, some hardly of any effect, and others hurtful. The most safe and useful are the following viz. warm vinegar, mindererus's spirit, volatile liniment and a poultice of oatmeal, vinegar, and oil. But nothing is more effectual than *ease,* continued for a due length of time.

Ruptures.

This disorder, depending generally upon a laxity of the constitution, is most incident to children and old people, in whom it may be excited by various occasional causes; in the former class by crying, coughing, vomiting, or the like; and in the latter by blows, violent exertions of strength, and strains, &c. It has been observed that they are most frequent among the inhabitants of those countries where oil is much used as an article of diet.

Ruptures are extremely various in point of situation; and likewise in the bowels which produce them. The parts in which they usually appear are the groin, scrotum, labia pudendi, the upper and fore part of the thigh, the umbilicus, or navel, and different points between the interstices of the abdominal muscles. Instances have occurred of the stomach, womb, liver, spleen, and bladder, being found to form their contents. But a part of the intestinal canal, or a portion of the omentum, or cawl, are known from experience to be the most frequent cause of their formation.

On the first appearance of this disorder it is commonly of no very considerable size; such tumors seldom acquiring any great bulk at once: but, by repeated descents of the bowels it is gradually increased, till, in some instances, it becomes at last of great magnitude, and occasions much distress to the patient. This arises either from an obstruction to the passage of the fæces when the intestinal canal forms the tumor, or from a stoppage of circulation, occasioned by stricture on the prolapsed parts; so that the disorder will be always more or less hazardous, according to the nature of the part so protruded.

A rupture being generally inconsiderable at its commencement, sometimes proves fatal before it is known to be formed. On this account, whenever sickness, vomiting, and obstinate costiveness give reason to suspect an obstruction of the bowels, all those places where ruptures usually happen ought to be carefully examined: for, by neglecting this inquiry, many persons have been cut off by ruptures who were not suspected to have any such disorder till after they were dead.

On the first appearance of a rupture in an infant, it ought to be laid upon its back, with its head very low. If, in this posture, the gut does not return of itself, it may easily be put up by gentle pressure: after which a piece of sticking plaster may be applied over the part, and a proper truss, or bandage, must be constantly worn for a considerable time. The child must be kept as much as possible from crying, and from all violent exertions, till the rupture is quite healed.

In adult persons, when the gut has been forced down with great violence, or happens from any cause to be inflamed, he cure of a rupture is far more difficult, and sometimes mpracticable, by the usual means of reduction. In such case, however, the following method may be pursued:

The patient, having been bled, must be laid upon his ack, with his head very low, and his breech raised high ith pillows. In this situation, flannel cloths wrung out of decoction of mallows and chamomile flowers; or, in want f these, warm water, must be applied for a considerable me, to relax the stricture upon the gut. A clyster made f the same decoction, with a large spoonful of butter, and n ounce or two of salt, or of water, with a little Castile oap, may be afterwards thrown up. If these should not rove successful, recourse must be had to pressure. If the mor be very hard, considerable force will be necessary; ut dexterity chiefly is requisite. The operator, at the me time that he makes a pressure with the palms of his ands, must, with his finger, artfully introduce the gut by e same aperture through which it had escaped. Should ese endeavours prove ineffectual, it will be proper to make ial of clysters of the smoke of tobacco, which have often oduced good effects where no other remedy has availed.

The last resource in an obstinate *hernia* is an operatio with the knife; but this is so nice and difficult, that befor it be adopted every other method should be tried. Aft the gut has been returned, the patient must wear a stee bandage, or truss, for a long time.

Those who have a rupture ought carefully to avoid al violent exertions of the body, as well as flatulent or wind food, costiveness, and catching cold.

CHAP. XLVI.

Casualties.

IT is not uncommon for every appearance of life to b suspended by a sudden and violent accident, at the sam time that there still remains a possibility of restoring th vital motions by assiduous and well directed efforts. Th truth of this observation is confirmed by innumerable instances, which it would be superfluous to produce; an it ought to excite in the public a general disapprobation o that inconsiderate and criminal remissness which permits th flame of life, when only obscured, to be irrecoverably extinguished through a total neglect of the means of resuscitation. In cases such as have been mentioned, nothing les than a certainty that death has taken place should ever preclude the most active exertions to prevent it; but, howeve suspicion may prevail, and probability favour its suggestions there can exist no certainty relative to the subject until careful inquiry shall have clearly ascertained that the organs essential and necessary to life are irreparably destroyed.

Ignorance and superstition have both contributed to support the inhuman custom which is at present the object o our censure. It is a traditional interdiction, derived fro the times of rude antiquity, that the body of a person killed b accident should not be laid in a house that is inhabited. Bu a more enlightened æra has exploded such barbarous doctrine; and it is now justly regarded, not only as a duty, bu a highly meritorious office, both to receive into an inhabite house the body of a person apparently dead from some accident, and to exert every effort for restoring, if possible, th powers of suspended animation.

When a person, of a sudden, seems to be deprived of life, he object of immediate inquiry is to examine into the cause. f suffocation by foul air should appear to have produced he accident, the body should be withdrawn, without the mallest delay, from the spot where it lies, and a free venti-ation be procured. If there be no reason to suspect such cause, it will then be proper to examine whether respira-ion has been stopped by any thing that may have got into ie wind-pipe; or whether any dangerous intrusive sub-tance has made its way into the gullet.

If the vital motions be suddenly stopped, from any cause hatever, except mere weakness, the patient ought to be led. Should the blood not flow, upon opening a vein, the ody may be rubbed with warm cloths, salt, &c. or it may e immersed in warm water, or covered with warm grains, shes, sand, or the like, to restore the circulation.

Substances stopt in the Gullet.

One of the most common accidents, attended with great anger, is the inadvertently swallowing of substances which e likely to stick in the passage between the mouth and the omach, and from which situation it may be impossible, by ny contrivance, to bring them up, or to forward their de-cent without hazarding the life of the person. This effect ay be produced by a lump of food too large for the diame-r of the gullet; or by sharp-pointed substances, such as ns, nails, and the like; which people often imprudently old in their mouth, and afterwards, without reflection, ffer them to escape the palate.

When any substance is detained in the gullet, there are o ways by which we may endeavour to remove it; and ese are, either by extracting it, or pushing it down. ie former is by far the safest way, but not always the siest. When, therefore, the obstructing body is of such nature that no danger can arise from its reception into the omach, the expedient most advisable in such an emer-ncy is to push it down. The substances which may be us protruded with safety are, bread, flesh, fruits, and ier aliments. But all indigestible substances, such as rk, wood, bone, &c. ought, if possible, to be extracted, ecially if these bodies be sharp-pointed, as pins, needles, h-bones, and the like.

When those substances have not advanced in their passage beyond the reach of the hand, we should endeavour to extract them with our fingers; and this method often succeeds; when they have proceeded farther, it will be proper to make use of nippers, or a small pair of forceps, an instrumen employed by surgeons. If the fingers and nippers fail, or cannot be duly applied, recourse should be had to the kind of hooks called crotchets. These may be readily made by bending a piece of iron wire at one end. For conducting such an instrument with greater safety, there should likewise be a curvature, or bending, at the other end; which may be tied with a string to secure it from slipping out of the hand of the operator. The crotchet having passed below the substance which obstructs the passage, and being drawn up again, hooks up with it the offending body. The crotchet may also be employed when a substance somewhat flexible, as a pin, or fish-bone, sticks across the gullet; the hook, in such cases, seizing them about their middle part, bends them in such a manner as to facilitate their extraction; or, if they are very brittle substances, serves to break them.

When the obstructing bodies are small, and only stop up a part of the passage, and which may either easily elude the hook, or, by their resistance, unbend the curvature, a kind of ring may be used. For this purpose, a piece of fine wire, of a proper length, may be bent into a circle, about the middle, of about an inch diameter, and the long unbent sides brought parallel, and near each other: these are to be held in the hand, while the circular part, or ring, is introduced into the gullet, in order to inclose the obstructing body, and so to extract it. More flexible rings may be made of thread, silk, and small pack-thread; which, for their greater strength, may be waxed. One of these is to be tied fast to a handle of iron wire, whale-bone, or any kind of flexible wood, and by this means introduced in order to surround the obstructing substances, and extract it. To lay hold of the obstructing body with more certainty, it may sometimes be proper to pass several of these rings through one another; thus providing for successive chances of action, if one or more rings should fail of the desired effect. These rings have this advantage, that when the substance to be extracted is once laid hold of, it may then, by turning the handle, be retained so strongly in the

the ring, thus twisted, as to admit of being moved every way, and thereby facilitate the extraction.

Another expedient employed on these unhappy occasions is the sponge; the utility of which is chiefly owing to its property of swelling on being wet. If any substance be stopped in the gullet, but without filling up the whole passage, a bit of sponge may be introduced through the vacuity; where, having swelled by the moisture of the surrounding parts, or, more speedily, by making the patient swallow a few drops of water, it is afterwards drawn back by the handle to which it is fastened; and, being now too large to return through the narrow passage by which it had descended, it meets with a resistance from the obstructing body, and pushes it upwards.

When all these methods fail of extracting the offensive substance, there remains one resource more, which is to make the patient vomit. But this expedient only can be of any service where the obstructing body is not stuck into the sides of the gullet; as, otherwise, vomiting, instead of giving relief, might occasion farther mischief. If the patient can swallow, vomiting may be excited by taking half a drachm of the powder of ipecacuanha made into a draught. If he be not able to swallow, an attempt may be made to excite vomiting, by the common practice of tickling his throat with a feather; and if that should not succeed, a clyster of tobacco may be administered, which has often proved effectual in exciting a motion to vomit, when other attempts for that purpose have failed. It is made by boiling an ounce of tobacco in a sufficient quantity of water.

When the obstructing body is of such a nature that it may with safety be pushed downwards, this may be attempted by means of a wax candle oiled, and a little heated, so as to render it flexible. For the same purpose may be employed a piece of whalebone, wire, or flexible cane, with a sponge fastened to one end. If every effort should prove abortive to extract even those bodies which it is dangerous to admit into the stomach, we cannot hesitate a moment with regard to the propriety of pushing them down into that organ, since a precarious alternative is preferable to the certainty which must otherwise exist of the patient's dying in a few minutes; and such a resolution is more justifiable in being supported by many instances where a similar conduct has been followed with the happiest effects.

When it is found to be impracticable either to extract or push down the obstructing substance, it will be proper to desist from any further efforts for that purpose; because the inflammation which would ensue from the continuance of them might prove no less dangerous to the patient than the obstruction itself.

During the use of the above-mentioned means for removing the obstructing substance, the patient should frequently swallow some emollient liquor, such as warm milk and water, or a decoction of mallows; or, if he cannot swallow, these applications should be introduced into the gullet by injection. They not only soften and sooth the irritated parts, but, when injected with force, prove often more effectual in removing the obstruction than any other expedient that can be employed.

When, in spite of all our endeavours to dislodge the obstruction, it still remains immoveable, the patient must be treated conformably to a state of inflammation. He ought to be bled, kept upon a low diet, and emollient poultices applied round his whole neck; and the same treatment will be necessary if there be any reason to suspect an inflammation of the gullet, though the obstructing body should be removed.

Instances have occurred where the obstructing body has been dislodged by a proper degree of agitation. Even a blow on the back has often forced up a substance which stuck in the gullet. But this expedient is yet more efficacious when the substance gets into the wind-pipe. In this case it is likewise of advantage to excite vomiting and sneezing. Pins, which stuck in the gullet, have often been discharged by riding on horseback, or in a carriage.

When any indigestible substance, as a coin, has been forced down into the stomach, the patient ought to use a very mild and smooth diet, such as broths, puddings, boiled or roasted apples, &c. avoiding all heating and irritating food and drink; the latter of which should be milk and water, barley-water, or whey.

When the gullet is so completely obstructed that the patient can receive no nourishment by the mouth, it will be necessary to support him by clysters of broth, soup, milk, jelly, and the like.

In cases where respiration is so much impeded by an obtruction in the wind-pipe that there is danger of imme- iate suffocation, the only expedient for protracting the life f the patient is by making a temporary aperture into that assage. But this operation, which is termed *bronchotomy,* hould be performed by the hand of a surgeon.

Persons apparently Drowned.

As soon as the body is discovered it ought to be conveyed n a blanket with all expedition to some house, where the rocess should immediately commence. If the body be hat of a child, there is a possibility of its recovering by being aid naked in a bed between two persons stripped to the hirt, who should benevolently contribute their assistance n such an occasion. But if it be the body of a youth, or rown up person, it ought to be laid upon a bed or couch ently sloping, and with the head a little raised. If in win- er, the place should be heated with a fire; but if in summer, nd the sun shines, the body may be exposed to the warmth f its beams. After being wiped dry with warm cloths it ught to be diligently rubbed with flannel, lightly sprinkled with brandy, rum, or any spirituous liquor. Bottles or ladders, filled with hot water; or heated tiles or bricks, hould also be procured, and, wrapped up in flannel, be ap- lied to the hands and feet. The warming-pan might likewise be lightly moved along the spine or back bone.

An effort should next be made to inflate the lungs, or ill them with air. For this purpose a person should, with his and, stop the mouth and one of the nostrils, while another lows gently with a bellows into the open nostril. If a bellows should not be at hand, some benevolent assistant might ompensate the deficiency by applying his mouth to that of he object, and breathing forcibly into it. After which the reast ought to be slightly pressed downward to expel the ir again, and thus imitate the act of respiration.

If the means hitherto mentioned should not prove effec- ual, a clyster of mulled wine or some other powerful stimulant, such as warm brandy and water, should be given, and epeated three times in an hour.

The agitation of the body, by moving it in various directions, ought also to be practised. If these various means, hough continued during an hour, should still not succeed, the next expedient should be to procure the means of warmth.

Electricity, where there happens to be an apparatus for that purpose, ought also to be tried.

Should any kind of movement, such as twitchings, contractions, &c. be perceptible, there is great reason to expect a happy termination of the process. Every effo should now be exerted with redoubled assiduity. A spoonful or two of tepid or lukewarm water should, if possibl be passed down the throat; and even a little wine, brand rum, or whatever of the kind may be at hand. If spirituou liquors be used, they may be diluted with two thirds of water. The person should then be laid in a bed, and kep perfectly quiet in order to enjoy some repose, by which th restoration will be completed.

Such is the method recommended by the Society fo conducting the process, the particulars of which are calculated to revive the powers of nature, and excite into fres action the vital functions of respiration and the motion the heart.

I shall only subjoin to these directions, that the chi means of promoting resuscitation is to excite a gener warmth. The body should be immediately stripped, an every effort made as speedily as possible to produce th effect. The best thing for the purpose is the tepid bath but if this cannot be procured, the person may be covere with warm sand, ashes, or thick blankets, in a bed; and heate bricks or stones, or bottles with hot water, should be applied to various parts of the body. For it is much better t warm thoroughly persons apparently dead, than to use friction, clysters, &c. and at the same time to suffer them become stiff with cold.

After blowing air into the lungs, it would be proper to apply volatile salts or spirits to the nostrils.

The time requisite for effecting these purposes mu vary in different persons, according to the degree of irritablity with which the body is endowed. In most cases th end is obtained in about the space of an hour; but the are instances of its being retarded to the expiration of fo hours. It is therefore advisable to continue the employme of the means at least to the termination of that perio And if gratitude can ever be due for any benefit receive it must be to those who contribute their assistance in a emergency so pressing and decisive of the fate of a fello creature.

The means above recommended are likewise applicable the case of suspension by the cord. But in this circumstanc a few ounces of blood may be taken from the jugular vei cupping-glasses be applied to the head and neck, and leeches to the temples.

Noxious Vapours.

Air may be rendered unfit for respiration either from a defect of the vital principle, or its being impregnated with noxious exhalations, of which there are various kinds.

As both fire and candles consume a great deal of vital air, it is hurtful to sit in a small close room where they both are used, especially where the air is contaminated by exhalations from the lungs of several persons or animals. In such an apartment, the vapours of coal, and other fuel, with the smell of candles, or lamps, when the flame is extinguished, are all extremely prejudicial, and have often even proved fatal.

The vapour which exhales from any fermented liquor, while in the state of fermentation in a close vessel, if imprudently received by any person into the lungs, may occasion instantaneous death. On this account it is dangerous to venture into cellars where a large quantity of such liquors are in a state of fermentation, especially if they have been close shut up for some time.

The same effects abovementioned are produced on opening subterraneous caves which have been long shut up, or on cleaning deep wells which have not been emptied for several years. No person therefore ought to venture into any such place, where dampness and a long stagnation of the air have produced unwholesome and mephitic vapours, until these have been sufficiently corrected by the fumes of gun-powder exploded, or shavings burnt. The common means is by letting down a lighted candle, or throwing in burning fuel. If these continue to burn, it is a proof that the air is not corrupted; but if they be suddenly extinguished, immediate death would be the consequence of entering those places, until the air has been purified by the deflagration of gun-powder.

It is common for persons of a delicate constitution to find their breathing oppressed in a close apartment, where the air is corrupted by a number of candles, and the respiration of a crowded assembly. In such circumstances they ought to withdraw from the scene as soon as they find themselves begin to be incommoded. If, after getting into the open air, they continue to feel any uneasiness, it will be abated by drinking a little hot lemonade, or water and vinegar of the same temperature.

If a person has been so much affected by the corrupted atmosphere as to be rendered insensible, he should be exposed to the fresh and open air; and volatile salts, or other stimulating substances, held to his nose. It will next be proper to bleed him in the arm, or, that not succeeding, in the neck. His legs should be put into warm water, and afterwards well rubbed with a dry cloth. As soon as he can swallow, some lemonade, or water and vinegar, as before directed, may be given him. It will likewise be of advantage to administer active clysters, which, in defect of more stimulating ingredients, may consist of the common clyster sharpened with two or three large spoonfuls of common salt.

A respectable practitioner relates the case of a man suffocated by the steam of burning coal, whom he recovered by blowing his breath into the patient's mouth, bleeding him in the arm, and causing him to be well rubbed.

And another of the faculty mentions the case of a young man who was stupefied by the smoke of sea-coal, but was recovered by being plunged into cold water and afterwards laid in a warm bed.

It would seem that the practice of plunging persons suffocated by noxious vapours in cold water is conformable to a physical principle in the animal œconomy, which can only be ascertained by observation: for it coincides with the common experiment of suffocating dogs in the *grotto de cani*, and afterwards recovering them by throwing them into the neighbouring lake.

Effects of extreme Cold.

Extreme cold acts upon the surface of the body, particularly the extremities, by constricting the vessels; on which account the circulation is obstructed, and too great a quantity of blood is forced towards the brain; whence ensues a drowsiness which terminates in an apoplexy. But such violent effects of cold are seldom experienced in this country.

It frequently happens, however, that the hands or feet of travellers are so benumbed or frozen, as to be in danger o mortification, if proper means be not immediately used to prevent it; and this danger is greatly increased by the usual practice of people in such a situation. When the hands or feet are pinched with cold, nothing is more common than to hold them to the fire; but nothing at the same time is more pernicious, in such circumstances, than the application of heat. When those parts are greatly benumbed with cold, they ought either to be immersed in cold water or rubbed with snow until they recover their natural warmth and sensibility. The person afterwards may be removed into an apartment a little warmer, but still be careful not to approach immediately to a fire.

When a person has been so long exposed to the cold that every symptom of life has disappeared, he ought to be rubbed all over with snow or cold water; or, what may be more immediately efficacious if it can be procured, he may be immersed in a bath of the coldest water. If to this be added two or three handfuls of common salt, it will operate still more powerfully. Should one plunge not prove effectual, the patient should be rubbed all over with cloths and again immersed in the bath. Nor ought we soon to desist from the diligent use of such means: for there are instances of persons, who, after remaining in the snow, or being exposed to the freezing air during five or six successive days, and who discovered no signs of life for several hours, have, nevertheless, been revived by persevering assiduity in such efforts.

Effects of extreme Heat.

In the temperate climate of this country, extreme heat seldom operates to the immediate extinction of life; but such incidents are not uncommon in those regions of the globe which lie much nearer to the equator. People exhausted with heat and fatigue frequently drop down apparently dead in the streets. In such a case some warm cordial should be poured into the mouth, if practicable; but if this cannot be done, the remedy may be administered in the form of a clyster. Volatile spirits, and other things of a stimulating nature, may be applied to the skin; which should also be well rubbed with coarse cloths. Every kind of excitement applied to the surface of the body is here of advantage: such as whipping with nettles, or beating with rods; by which means some of the ancient physicians are said to have revived persons apparently dead.

CHAP. XLVII.

Of Fainting-Fits, and other Cases which require immediate Assistance.

STRONG and healthy persons, of a full habit of body, are often liable to fainting-fits after violent exercise, exposure to great heat, drinking freely of warm or strong liquors, intense application to study, or great agitations of mind.

In cases of this kind, vinegar should be held to the patient's nostrils. The same remedy, mixed with an equal quantity of warm water, should be applied to his temples, forehead, and wrists; and two or three spoonfuls of vinegar, with four or five times as much water, may, if he can swallow, be poured into his mouth.

If the fit proves obstinate, or degenerates into what is called a *syncope*, that is, an abolition of feeling and understanding, the patient must be bled; after which, a clyster should be administered. In the mean time, he ought to be kept perfectly quiet and easy; only giving him every half-hour a cup or two of an infusion of mint, balm, sage, or any mild herb, with the addition of a little sugar and vinegar.

When swoonings, arising from a super-abundance of blood, happen frequently to the same person, he should, by way of prevention, confine himself to a light diet, consisting chiefly of bread, fruits, and other vegetables; and using, for drink, either small-beer or water. He should likewise take a good deal of exercise, and be moderate in the indulgence of sleep.

Fainting-fits, however, are much more frequently occasioned by a defect than an excess of blood: on which account they most commonly occur after great evacuations of any kind, obstinate watching, long fasting, and the like. In those cases, the treatment must be almost directly the reverse of what has been above recommended.

The patient should be immediately laid in bed, with his head low; and, being covered, his legs, thighs, arms, and his whole body be strongly rubbed with hot flannels. Volatile salts or spirits, Hungary-water, or strong smelling herbs, such as rue, mint, or rosemary, may be held to his nose.

His mouth may be wet with a little rum or brandy; and, if he can swallow, some hot wine, mixed with sugar and cinnamon, may be poured into his mouth. A piece of flannel, folded two or three times, and dipped in hot wine or brandy, ought to be applied to the pit of the stomach, and warm bricks, or bottles filled with hot water, laid to his feet.

By these means the patient will probably soon begin to recover; and, to promote his restoration, he ought now to take a little bread or biscuit, soaked in hot spiced wine, or, if such a thing be ready, some strong soup or broth: continuing to take often, but in small quantities, some light strengthening nourishment, such as jellies, light roast meat, soup, and the like, to prevent a return of the fit.

To this class belong those fainting-fits which are occasioned by accidental bleeding, or the violent operation of purgative medicines. Such as are the consequence of blood-letting seldom prove dangerous, and generally terminate on the patient's being laid in a horizontal posture; in which situation persons who are subject to this accident should always be bled. On this occasion, however, should the fainting not immediately cease, volatile spirits may be held to the nose, and rubbed on the temples.

When fainting proceeds from too strong or acrid purges or vomits, the patient must be treated in all respects as if he had taken poison. He ought to drink plentifully of such liquors as are adapted to blunt the violence of those substances, and defend the stomach and intestines from the force of their irritation. This purpose will be answered by milk, oil, barley-water, warm water, and the like. It will also be proper to use the same materials in the form of clysters. The patient's strength should afterwards be recruited by generous cordials; with which some opiate, as the opiate confection, should be given.

Faintings are sometimes occasioned by the quantity or quality of the food. When they proceed from the former, the cure must be effected by vomiting, which may be promoted by drinking an infusion of chamomile flowers. If the nature of the food be the cause, stimulating applications to the nostrils and temples must be used, in the same manner as in the case of weakness. Afterwards, as soon as possible, he should be made to swallow a large quantity of light warm fluid, which may dilute the acrimony of the offending matter, and either promote the discharge of it by vomiting, or carry it down into the intestines.

In very delicate constitutions, swoonings are sometimes occasioned by disagreeable smells. Upon such an emergency the disagreeable object should be removed, and the patient carried into the open air, where volatile salts, or other stimulating things, should be held to his nose.

Fainting-fits often happen in the progress of diseases particularly fevers. When they happen at the beginning of malignant fevers, they indicate great danger. In all such cases as these now mentioned, the best remedy during the paroxysm is vinegar, both externally and internally used and after it is over, the free use of lemon juice and water brandy and water, &c. Swoonings which happen in diseases accompanied with great evacuations, must be treated as those which proceed from weakness; restraining at the same time the evacuations. When they occur towards the end of a violent fit of an intermitting fever, or at that of the exacerbation of a continual fever, the patient must be supported by small draughts of wine and water.

Delicate and hysteric women are very liable to swooning or fainting-fits after delivery. These are to be cured by generous cordials, and the admission of fresh air; by which they might likewise be often prevented. When they proceed from excessive flooding, the discharge ought by all means to be restrained.

In all cases of fainting, fresh air is of the greatest importance to the patient; of which, however, he is too often deprived by the officious assiduity of his friends, who by crowding around him, perhaps in a small apartment, counteract the very means which are the most proper to restore him.

Persons subject to fainting-fits should do all in their power both to avoid the occasions which excite them, and overcome the constitutional weakness in which they are founded. Every fit of the kind is more or less injurious to the future permanency of health, not only by the increased debility which it occasions, but by the various disorders which may arise from a temporary stagnation of the blood. Disturbed secretions, obstructions of vessels, and coagulations of the fluids, are the natural consequences of every shock which affects so much the circulation.

Intoxication.

Intoxication is not only extremely pernicious to health, but an excess of a kind the most degrading to human nature;

d when produced by ardent spirits, it frequently occasions stantaneous death. The effects of this *Circean* poison are nilar in many respects to those of opium; producing a nfusion in the head, a temporary derangement of the un- rstanding, a partial or total abolition of all the senses, d a diminution of the nervous energy. Other kinds of toxicating liquors, as well as ardent spirits, may prove structive of life; but being taken in greater quantity, they e more liable to be discharged from the stomach, and ereby prevented from occasioning fatal effects. This is th the readiest and most effectual way in which nature n be relieved from her oppressive load, and vomiting ght always to be excited when the stomach is thus over- arged.

Of those unhappy persons who die in a state of intoxica- on, the greater part lose their lives from an inability to nduct themselves. Rendered incapable of walking, they mble down, and, if not immediately destroyed by the acci- nt, lie in some awkward posture, which obstructs the cir- lation or breathing, till at length they often expire.

A person intoxicated with liquor should never be left by mself till his clothes have been loosened, and himself laid such a posture as is most favourable for continuing the tal motions, and discharging the contents of the stomach. he best posture for facilitating the latter, is to lay him upon s belly. When asleep, he may be laid on his side, with s head a little raised; and particular care should be taken at his neck be no way distorted, or have any thing about too tight.

The thirst occasioned by drinking strong liquors is most fely allayed by water with a toast, tea, or infusions of the mmon herbs, such as balm, sage, and the like. To excite miting, the fittest beverage is an infusion of chamomile- wers; and indeed this is the object which ought always be promoted in the state of intoxication.

Getting Wetted.

Though the accident here mentioned has no title to be mprehended in the list of diseases, yet as it may, if neg- cted, give rise to many such, and those too of the most ngerous kind, it deserves to be noticed for the purpose of reventing its effects.

This accident is at all times less frequent in towns than the country, especially since the use of the umbrella has been introduced ; but there is no person, however stron his constitution, who may not be affected by it. Indeed, i certain circumstances, a vigorous and athletic man ma suffer more violently from it than even the weak and delicate. To both it may prove fatal : and this consideratio is a sufficient apology, if any were necessary, for pointin out the method which ought to be pursued on such an occasion by those who would pay due attention to the preservation of health.

When a person is wetted he ought never to stand, but t continue in motion till he arrives at a place where he ma be suitably accommodated. Here he should strip off hi wet clothes, to be changed for such as are dry, and hav those parts of his body which have been wetted well rubbe with a dry cloth. They should then be washed with brandy, or some other spirituous liquor, and afterwards dr clothes be put on. The legs, shoulders, and arms, ar generally the parts most exposed to wet : they should, therefore, be particularly attended to ; but, if the whole bod has more or less suffered from the accident, the whole shoul be rubbed and embrocated in the manner already mentioned It is almost incredible how many diseases may be prevente by adopting this course. Catarrhs, inflammations, rheumatisms, diarrhœas, fevers, and consumptions, are the foremos among the train which frequently follow an accident of thi kind.

CHAP. XLVIII.

Cosmetics . . . Warts, and Corns.

VARIOUS artifices have in all ages been practised fo improving the complexion, and removing blemishes, especially those of the face. In ancient times, the expedient was not uncommon, among women, of attempting to stain with a black colour the interior part of the eyes ; and similar efforts have been made in later periods to change the colour of the eye-brows. But the practice of the cosmetic art, in modern times, is chiefly restricted to that of painting the face ; a practice which, however much cultivated by the rudest nations, is not only repugnant to nature, but in the highest degree injurious to the genuine complexion, which

affects to improve. It is likewise, in many cases, no less
ejudicial to health; and when the painting is extended
er the surface of the breasts, it has, in some instances,
en found to prove even fatal.

Nor is it surprising that pernicious effects should ensue
m painting the skin, when we consider the nature of the
terials generally used for this purpose. They consist, for
e most part, of a preparation of lead in disguise, com-
ned with oil, and either scented, or not, with some per-
me. When this factitious pigment is applied to the
dy its effects are to shut the pores, to constrict the small
taneous vessels, and to harden the skin; the con-
quence of which is, that perspiration is obstructed,
ence arise tooth-aches, and rheumatic pains of the
jacent parts; and the skin being thickened as well as
rdened, it assumes a pallid, coarse, and haggard, ap-
arance, which, admitting afterwards of no remedy, can
ly be concealed by the application of a fresh coat of
int. Thus the practice is perpetuated, and what was at
st adopted from a chimerical and fantastic idea of im-
oving the beauty of the countenance, terminates in the
tal necessity of hiding its deformity.

A clearness and bloom of the complexion can be improv-
in no other way than by the preservation, and, where
is possible, the improvement of health. How this may be
st secured has already been shown in the chapters on air,
ercise, &c.

To set off the complexion with all the advantage it can
ain, nothing more is requisite than to wash the face with
re water; or, if any thing farther be occasionally neces-
y, it is only the addition of a little soap, which, however,
ould be afterwards washed off.

An object more subservient to health, and which merits
e attention, is the preservation of the teeth; the care of
hich, considering their importance in preparing the food
r digestion, is, in general, far from being sufficiently cul-
ated. I believe that very few persons, comparatively,
ash their mouth in the morning; which ought always to be
ne. Indeed, though the operation seems not the most
licate to spectators at the table, this ought to be practised
the conclusion of every meal where either animal food or
getables are eaten: for the former is apt to leave behind
a rancid acrimony, and the latter an acidity, both of them

hurtful to the teeth. Washing the mouth frequently with cold water is not only serviceable in keeping the teeth clean, but in strengthening the gums, the firm adhesion of which to the teeth is of great importance in preserving them sound and secure.

Picking teeth properly is also greatly conducive to their preservation; but the usual manner of doing this is by no means favourable to the purpose. A pick-tooth, with most people, is used in the manner of a tobacco-pipe, or rather as a plug of tobacco, twisted round and squeezed by the lips, in a kind of awkward mastication; and when it is wielded in the hand of the possessor, it is more as a weapon of hostility than defence to the teeth. When it is necessary to pick the teeth, the operation ought to be performed with due care, so as not to hurt the gums; but the safest and best way of doing it is always before a looking-glass.

Many persons, while laudably attentive to preserve their teeth, do them hurt by too much officiousness. They daily apply to them some dentifrice powder, which they rub so hard as not only to injure the enamel by excessive friction, but to hurt the gums even more than by the abuse of the pick-tooth. The quality of some of the dentifrice powders advertised in news-papers is extremely suspicious; and there is reason to think that they are not altogether free of a corrosive ingredient. One of the safest and best compositions for the purpose is a mixture of two parts of scuttle-fish bone, and one of the Peruvian bark, both finely powdered; which is calculated not only to clean the teeth without hurting them, but to preserve the firmness of the gums.

Besides the advantage of sound teeth, from their use in mastication, a proper attention to their treatment conduces not a little to the sweetness of the breath. This is indeed often affected by other causes existing in the lungs, the stomach, and sometimes even in the bowels; but a rotten state of the teeth, both from the putrid smell emitted by carious bones and the impurities lodged in their cavities, never fails of aggravating an unpleasant breath wherever there is a tendency of that kind.

The smallest eruption on the face is apt to disfigure the countenance, and therefore merits some attention. The most frequent of this kind is pimples, which proceed from an acrimony of the humours, and chiefly infest those who are dicted to the drinking of strong and heating liquors. It common to wash them with a little Hungary water, or andy; but what is better adapted to the purpose is Gou-d s vegeto-mineral water. Topical applications, however, of advantage only when the pimples arise from a local use: for when they proceed from a vitiated state of the fluids eruption cannot be prevented in any other way than by rrecting the cause which produces them. In such con-utions the diet ought to be light and cooling, and the dy kept gently open.

But a more permanent blemish of the face is the kind of crescence called a *wart*. This proceeds from no general af-tion of the system, and is merely a local effect. When rts do not prove troublesome, nothing should be done to em, as they generally either fall off or waste gradually ay; but when from their size or situation they require to removed, there are different methods of treating them. they be pendulous or have narrow necks, a silk thread xed may be tied tight round them at the base, and kept that situation until they fall off.

When their bases are broad, escharotic applications are mmonly made use of; but they ought to be of the milder nd. Of these, one of the best is crude sal ammoniac: should first be moistened in water, and then well rubbed on the wart two or three times a-day. Liquid salt of tar, and sometimes spirits of hartshorn, have answered the me purpose. Some recommend also the juice of onions, d others that of celandine; but the most effectual appli-tion is the tincture of muriated iron, applied every day.

The most troublesome excrescences, however, are corns. ese are small hard tubercles, commonly situated on the s or other parts of the feet, and sometimes on the hands. hey are always the effect of pressure; and, when seated the toes or feet, generally arise from tight shoes. When rns are situated on parts much exposed to pressure, they metimes occasion great pain. Various remedies are re-mmended for the cure or removal of these tubercles. ne is to bathe the part about half an hour in warm water, en to pare as much off them as possible without giving in, and to apply over them a little wax ointment. If this eatment be frequently repeated, while pressure from the oes is prevented, they generally fall off. Another method to allow them to grow to some length through a piece of rforated leather, properly secured by plaster, or by any other means, and afterwards to pick them out, or to c round their root, by which they may for the most part easily turned out.

CHAP. XLIX.

Of the Health of Soldiers and Seamen.

THESE two classes of men, considered in a politic view, form a valuable part of the nation; and of so gre importance are they to the security of the government, th liberties and interests of the public, that the preservation their health is an object which merits particular attentio Not more than half a century has elapsed since this branc of medical science began to be cultivated with any degre of success, or indeed even of industry; but within tha time it has been constantly prosecuted in many judiciou publications.

In respect of the army, it is observed by the learned S John Pringle, that the preservatives from diseases are, not t depend on medicines, nor on any thing which a soldier ca have in his power to neglect. Innumerable instances confirm the justness of this remark; and it is an unquestionabl fact, that the preservation of the health of troops depend as much on the observance of due regulations respectin diet, &c. in camp or in quarters, as the success of their military exertions does on their discipline and subordination i the field. It is not at present our design to enter into minute detail of the means for preserving the health of soldiers: all that we propose is to point out the most importan objects of consideration relative to the subject.

In all classes of men, the use of proper diet is indispensable for the preservation of health. The food of a soldie may be coarse, but it should be wholesome and abundant, such as is common among the labourers of the country; and the present pay of a British soldier, if properl laid out, can well afford even better.

The men ought to be divided into small messes, and proper stoppages made from their pay to provide food. It should be the business of an officer to see that the meals be regular, sufficient, comfortably cooked, and that the men behave at them with due decorum. Great care ought to be taken to prevent the introduction of corrupted flesh, ldy, or half-baked bread, spoiled corn, mixed flour, or r nutritious substances of bad quality.

ne meal of animal food is sufficient for a healthy man in nty-four hours; and it would be a good regulation were meal taken some hours later than is at present the cus- in camp. Digestion is best performed while the body ains at rest. Military exercises should therefore be ided as much as possible immediately after eating; and se men whose duty calls them to watch during the t, would be better supported by a full than an empty nach.

Nothing is so agreeable, and at the same time so whole- e to a soldier, after a fatiguing and perhaps a wet march, ome warm soup. To boil the meat is therefore the mode ooking which ought to be most generally used in the y. Every effort should be made to procure vegetables boil with the meat; but it is not necessary to be very cate in what are selected for this purpose. If the various ds of cabbage, carrots, parsnips, onions, and potatoes, ich are universally approved of, cannot be procured, the d or water cresses, the brooklime, the scurvy-grass, the d sorrel, and lettuce, which are to be found in every d, make wholesome as well as agreeable additions to p. When in a fixed camp, soldiers should be encouraged ultivate various kinds of culinary vegetables, and especially potatoes. It would conduce much also to the salu- y as well as the nutritious qualities of these soups, were ry mess to have a certain quantity of barley, or, what rds more substantial nourishment, decorticated oats, cut ats, dried pease, or rice, to add to their broth. Fresh ani- food should always be provided, if possible. When umstances, however, render it necessary to subsist on ed provisions, their injurious consequences may be con- erably mitigated, by paying proper attention to their dness, as well as to the mode of dressing them.

Ripe fruits, in moderate quantity, are wholesome; and, ntrary to the vulgar prejudice, tend rather to prevent than induce complaints of the bowels. Unripe fruits of all ds, especially stone-fruits, are well known to be injuri- , and should never be eaten raw.

To prevent an army from being seized with the scurvy, ing a season when fresh-meat and vegetables are likely to ome scarce, it would be prudent to have a large quan- of potatoes, onions, garlic, mustard-seed, leeks, sour-

crout, pickled cabbages, &c. and sub-acid fruits laid
store beforehand. These might be sold in moderate qu
tities, at a low rate, during winter; and all means shoul
the same time be used to oblige the men to form themsel
into messes, and buy a little fresh meat daily. Fermen
malt-liquor, cyder, and acescent drinks, are at no time m
useful than when the scurvy is beginning to make its appe
ance. On such occasions the Russian quass-loaves wo
be particularly wholesome, and convenient for making sm
beer. These are composed of oat or rye-meal mixed w
ground malt; and, when made into cakes with plain wa
are baked and kept for use. They make a pleasant aci
lous liquor by being infused twenty-four or thirty hours
boiling water, with a little dried mint or other aroma
herb.

During the prevalence of bloody fluxes, the men ough
be allowed plenty of farinaceous vegetables, such as gro
barley, rice, potatoes, and dried peas; but they should
frain entirely from pot-herbs and green fruits. No obj
tion is made, however, to the free use of ripe fruit.
these occasions they should also use fat and mucilagin
broths; or sago, and a little astringent wine, if it can be p
cured good; but meagre wines and fermented liquors wo
be pernicious to their bowels.

It has been observed, that the custom of taking a li
and warm breakfast, such as tea or coffee, renders men
licate and susceptible of taking cold. So much were
leaders of the French impressed with the truth of this
mark, that warm breakfasts were strictly prohibited in o
of their northern armies. Upon the authority of a gent
man who was himself an eye-witness of the fact, every m
was allowed half a pint of good wine, which he took w
his bread. Few of these men were unfit for duty, thou
the weather was extremely severe. It may be laid do
as a maxim, that a soldier will be able to bear fatigue a
hardship with vigour and alacrity, in proportion as he li
well. In this country, a pint of good porter, or sound a
might be substituted for wine. The men should not
allowed to purchase this at pleasure; but it should be reg
larly issued, and the expense stopped from their pay.

Cheap, excellent, and nourishing puddings may be co
posed of boiled barley, molasses, and ginger.

Bread, emphatically termed the staff of life, is what t
soldier chiefly depends upon for support. While an an

in motion, it is difficult to furnish this article in abundance, d with regularity. It is the settled, but perhaps errone-s, custom to furnish armies with bread fermented and ked into the form of loaves. Biscuits would, on many casions, be preferable : a loaf sometimes becomes mouldy d uneatable in a few days; biscuits will keep in perfection months. Bread baked amidst the hurry and confusion an army in motion, is apt to be improperly prepared ; d in this state it is very unwholesome ; but the quality of scuit made at a distance, and with regularity, may always depended upon. The hardness of biscuit is removed by aking it in warm water ; and the rawness or doughiness bread is in some measure corrected by toasting it.

It would be well were the promiscuous sale of distilled irits to soldiers wholly prohibited. In hot weather they peculiarly injurious. The mortality of our troops in the est Indies has been attributed, by every medical writer, much to the intemperate use of spirits as to the effects of climate. It is not denied that in some situations they y be necessary; but that necessity is to be judged of by physician or commanding officer. In cold damp wea-r, when a little spirit might be allowable and useful, soldiers uld find a tolerable substitute in a draught of hot water th a tea-spoonful of fresh grated ginger in it. This, in nmon cases, would be of equal utility with spirituous uors, and does not possess the power of intoxicating.

Another article of importance with regard to soldiers is thing ; which is, in general, far from being well adapted a military life. The stiff bandage that surrounds the k, and the tight ligatures which constrain the articulations the loins and the knees, should if possible be avoided. edom of respiration is no doubt also impeded by the ssure of the belts crossing upon the chest. In an active npaign, much often depends on rapidity of movement, l promptitude of exertion : but if a certain portion of the ength of each individual be exhausted in counteracting pressure on his muscles, or in sustaining perhaps an un-cessary burden, the sum of the whole, which might other-se be employed in supporting unavoidable fatigue, must considerably diminished.

Many remarks might be made on the other parts of the itary dress; but to prosecute the subject with any degree precision would swell the present chapter to too great a gth. Suffice it therefore to observe, that prudence, humanity, and sound policy conspire to recommend the use o woollen clothing for British soldiers, at least during an encampment. Dr. Donald Monro, a judicious and experienced physician in the diseases of the army, observes, that a woollen stock or neck-cloth, with a flannel waistcoat and worsted gloves, may be purchased for about half a crown pe man, and would contribute to preserve the lives of many whereas the expence of medicines and recruiting will greatl exceed the price of these articles.

Personal cleanliness is likewise an object of great importance in an army; for it is observed that those men who ar most negligent in this respect, are the first who are infecte by diseases. Hence the contagion is frequently sprea through a whole army, among whom it often proves mor fatal than the sword. The strictest attention, therefore, i necessary to enforce the observance of this practice.

The method of preserving the health of seamen is i many respects the same with that which relates to the army. Cleanliness and wholesome diet, in particular, are essentia in both classes. On board ships, the practice of frequent scraping, sweeping, and washing the decks daily should never be omitted. In cold weather, if due attention be paid to cleanliness, by means of scraping and sweeping well, perhaps it will be sufficient to wash the deck once in eight or ten days, as dampness, when joined to cold, is a powerful cause in producing the scurvy and other diseases. Moisture, when joined to heat and stagnant air, is also highly prejudicial, and frequently gives rise to putrid and malignant fevers. The utmost attention should therefore be paid to keep between decks as dry as possible, by means of stoves properly fitted; by frequent swabbing; by keeping up a free circulation of air, and every other means of prevention.

Care should be taken not to let any thing acid, or that is apt to ferment and turn acid, remain in the cook's coppers, or other culinary utensils; as a green rust or verdigrease may thence be produced, which is well known to be a poison of the most active and virulent kind.

All the hammocks should be washed, cleared, and well dried at stated periods, at least once a month, and the clothes and bedding frequently spread in rotation, in fine weather, on the booms, or hung up forward for airing.

amen, likewise, in hot climates, should have frequent urse to bathing in the sea. This practice not only ces and strengthens the system in general, but powerfully sts the organs of digestion, and enables those who use it ear more fatigue. In a ship, it may be done by having kets full of salt water thrown over the body, especially du- the time that the vessel is within the tropics. But though practice here recommended is in general highly service- , the cold-bath is not to be used when there is much of prickly heat on the skin, immediately after a full meal, after being much heated, nor in the heat of the day.

due supply of fresh air is indispensable for the preser- on of health, as well as life itself. Every attention, efore, should be paid to its free and constant circulation, every care taken to keep it in as pure and healthy a as possible between decks. Wind-sails should be in tant use to ventilate between decks in warm climates. the most powerful and effectual agent for destroying ious or putrid air is fire, and the best and safest way of municating it is by stoves.

he precautions above mentioned are necessary at all s; but in bad weather more particular attention should aid to dryness and cleanliness, and to the state of the air he lower decks: for it is in such weather that sickness ost apt to break out.

he diet of seamen is in general less wholesome than of the army. When the usual allowance of salt beef pork can be diminished, and other articles, such as , potatoes, flour, fruit puddings, &c. be increased, it t in every instance to be done. There should always plentiful supply of vinegar and mustard, as these arti- end greatly to counteract the bad effects of salted or d meat. The capsicum or Guinea pepper is an article ily use amongst the natives of hot countries in wet and y seasons; when it seems to fortify the stomach and whole body against the attack of fever. It is recom- ded to be infused in vinegar, and regularly served to hip's company, to use with their meat; and in wet and y seasons a quantity of it might be put into the people's or soup, in a palatable proportion.

hen a ship touches at any port, great caution should be rved with respect to the quantity of fresh meat and tables at first allowed; as the usual allowance in a climate is by far too much; and most probably gives rise to fluxes, fevers, and a variety of bilious disorde The use of vegetables and fresh meat, therefore, should a first be cautiously moderate, and chiefly used in the form o well prepared soup; increasing the quantity by degrees t the full allowance. The same observation may be mad with respect to the article of fruit, of which whatever i used should be perfectly ripe, of the best kind, and serve out in proportions. The utility of good fruit, however, a well as all acids, and fermented liquors, in preserving seame from the ravages of the scurvy, is now generally known.

Water is universally an essential article in the support o life, and among seamen is frequently bad or deficien Spring water, where it can be had, is always to be preferred next to that, clear, running water, which should be take from as near the source as possible. In situations wher none but unwholesome water can be procured, the proces of boiling will tend much to correct its bad qualities; an where there is reason to suspect the eggs of insects or animalcules in water, this precaution should never be neglected

If water be hard, the addition of a little pearl-ash, o salt of tartar, will give it the properties of soft water. I muddy, the addition of a few grains of alum will cause th impurities to subside: or it may be filtrated by forcing a piece of sponge, or doubled flannel, tight into any funnel shaped vessel, and letting the water strain through it: or b passing through a barrel of clear sand, or a filtering stone.

To preserve water from putrefaction, great care shoul be taken to keep the casks perfectly clean. The smalles quantity of corrupted matter being left in them acts as a real ferment, and very quickly disposes the fresh water with which these vessels are filled, to become putrid in th same manner. It is said, that the simple process of firin the casks, in putting the staves together, till a charry coa is formed over the whole surface, is a certain means of preserving water pure and sweet for any length of time.

To purify a quantity of corrupted water, the method is to add six or eight pounds of powdered charcoal to each cask. It is better to put too much than too little of the powder, and as much diluted vitriolic acid as is sufficient to communicate to the water a degree of acidity just perceptible to the taste. To prevent the charcoal from settling at the bottom of the cask, in the form of a paste, it will be proper to stir the whole together with a stick, at least twice a week.

Before using the water so preserved, it should be tried passing a small quantity of it through a strainer, in the rm of a jelly-bag, filled with powdered charcoal. If the ater thus filtered still have a turbid appearance, a fresh antity of powdered charcoal must be added, till it is be- me perfectly clear. The whole of the water may then passed through a filtering bag, the size of which should proportioned to the quantity of water.

The habit of daily swallowing a quantity of spirituous uor in its raw state, should be most scrupulously abstained m; and drams ought never to be given, unless after great igue, long exposure to cold, or on getting thoroughly et. On other occasions, the substitute of hot water, with tea-spoonful of grated ginger, above mentioned, may be vantageously used.

At the end of a long, cold, wet watch, rubbing the body y, a change of comfortable, dry clothing, and a glass of adulterated spirits, would, in numberless instances, pre- nt many an able seaman from appearing next day in sick list, and eventually, perhaps, be the means of ing his life.

The only mode in which liquor can be daily allowed to amen with advantage, is in the form of punch, made her with lime, lemon, or orange juice. The acid, sugar, d a large proportion of water, tend greatly to correct the d qualities of the spirit, and counteract the bad effects of a-diet, particularly with regard to the scurvy.

Sometimes sailors are unavoidably wet with rain for many s successively. In this situation the advice of Captain gh should be followed; viz. to dip their clothes in the water and wring them out as often as they become filled h rain. To him, and his unfortunate companions, it more like a change of dry clothes than can well be agined.

n cold, wet weather, much benefit would be derived n the use of flannel shirts, due attention being paid to anliness; and sometimes they would be equally beneficial warm climates by preventing a check to perspiration, so quent and dangerous in those parts.

Many economical improvements might yet be made with pect both to soldiers and seamen; but such innovations commonly gradual, and the work of a considerable time.

CHAP. L.

Cold-Bathing, Mineral Waters, and Sea-Water.

SOME observations have already been made on cold-bathing in a preceding chapter*; but the subject is of so great importance, that it merits more particular attention, were it only to enforce the necessity of caution in the use of so powerful a medicine.

Cold-bathing is promiscuously resorted to by the votaries both of pleasure and health; by those whose fibres are rigid, and those in whom they are lax; equally by persons who abound in blood, and persons deficient in the quantity of the vital fluid. It would, therefore, be repugnant to common sense to suppose that a thing which operates so powerfully upon the body, could possibly produce the same effects in constitutions not only dissimilar, but directly opposite to each other. The practice, however, is now become very general for people of all descriptions to have recourse to sea-bathing in the summer, for the purpose either of the preservation or the recovery of health. That, when properly used, it contributes in the highest degree to both, is a fact which admits of no doubt: but when on the other hand it is greatly misapplied, the effect is so extremely dangerous as often to prove fatal. The truth of this remark will more clearly appear, if we take a view of the obvious effects of cold-bathing.

Cold water, when applied to the body by immersion, acts both by its gravity and temperature. By suddenly constricting the vessels of the skin, it forcibly drives the blood to the interior parts of the body, whence arises an instantaneous oppression of the vital organs. If the blood be in too great quantity, there is danger lest some of the vessels burst by the violent distention which they suffer; and if the vital powers are not strong enough to re-act with force sufficient to propel the blood outwards, an immediate stagnation, with its fatal consequences, must ensue.

Such, therefore, are the effects of cold-bathing when improperly used: but when employed in favourable circumstances it is highly conducive to health. It accelerates the motion of the blood, promotes the different secretions, dissipates incipient obstructions, and gives permanent vigour to the solids.

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* See Chap. X. Book I.

From what has already been said, some idea may be formed of the constitutions and cases in which a recourse may safely be had to cold-bathing. It is well adapted to people of a relaxed habit of body, whether this be the effect of constitutional or adventitious causes, provided that the *viscera* or varions bowels be sound. Persons, likewise, subject to slow but habitual discharges, arising from a laxity of particular parts, are much benefited by it; and in nervous constitutions, where the temperature of it is properly adjusted to the sensibility of the patient, it is the most powerful remedy.

The adjustment of the temperature of the water is a very important consideration in the practice of bathing; and, on this account, where extreme cold fresh water might prove hurtful, bathing in salt water may be used both with safety and advantage. It is not only more uniform in temperature, but, by its stimulating effects on the skin, conduces to excite that re-action of the vital powers which is necessary to render bathing of any advantage to the health.

The temperature of the sea, though varying considerably in different seasons, is, on the whole, much more uniform than that of any inland water that is ever exposed to the atmosphere, and which is not a thermal spring, possessing in itself a source of heat. The vast body of water in the sea, and the perpetual agitation to which it is exposed, render it less liable to be affected by external changes of temperature, particularly at a considerable depth below the surface. At its upper part, however, which alone is employed for bathing or drinking, it undergoes great variations of temperature in different times of the year. On the shores of England, the surface of the sea is seldom, in the severest weather, lower in temperature than 40°, or higher in the hottest summer than 65°; whereas the heat of rivers, especially when shallow, and their current slow, rises higher and sinks lower than each of these points.

During the earliest period of infancy, washing or bathing ought to be practised every day. No other expedient tends in a greater degree to strengthen the constitution, to suppress or diminish the susceptibility of infection, and to prevent diseases. Bathing is one of the most powerful means of purifying the skin, of restoring free perspiration, and of preserving the surface of the body from eruptions and other troublesome disorders. Children accustomed to the bath will more easily overcome diseases incident to infancy, particularly the measles and small-pox.

Daily bathing in cold water, however, is certainly not the proper means of strengthening infants, or improving their health. The contracting power of cold produces rigidity of the fibres, obstructs the capillary vessels of the surface, and renders the whole skin too parched and dry for so tender an age.

From the birth of a child to the second year of its age the *tepid* bath only ought to be employed; and after that period the *cool* bath; the constitution of infants requiring this gradual change of temperature. During the first year of life, they are evidently in want of a moderate degree of warmth, nearly resembling that to which they were accustomed in the womb. New-born babes, or even those under a twelvemonth old, cannot endure a very cold air, and ought therefore to be treated with additional precaution in bathing.

The luke warm bath is most suitable to the first stage of infancy. The Russians, we know, plunge their children in the waters of frozen rivers, and the same was the practice of the ancient Germans; but this trial of vital strength is too severe to be generally adopted, and costs the lives of numerous innocents. The sudden effect of cold is too violent a stimulus for the frame of a tender infant, in whose mind it perhaps produces all the terrors of instant death.

During the first three months of its life an infant ought to be daily bathed in moderately warm water; in the next nine months the water should be only lukewarm; after the first year its temperature may be still more reduced; and after the second the bath should be cool.

From the third year of its age a child may be bathed in cold water; but it is not here meant, in water as cold as ice. It is proper to make a distinction between moderately warm, lukewarm, warm, tepid, cool, and cold. By the expression moderately warm, is understood that degree of heat when the hand, or, if this be not sufficiently sensible, the foot, may remain in it for some time without experiencing the least disagreeable sensation: the lukewarm bath is about the same temperature as new milk. The cool bath signifies a temperature equal to that of water which has been kept in a room for a considerable time, so that its chillness is taken off: and the cold-bath ought to correspond with river water in the height of summer.

But it will be proper to elucidate the different temperatures with some more precision. Immediately after the birth of a child, the water in which it is bathed ought never to exceed the 98th degree of Fahrenheit's thermometer; by progressively reducing the warmth of the bath one degree every month, it will stand at 86° when the child is one year old; which will produce the sensation of what is called lukewarm. If this temperature be still farther reduced in the next twelve months, so that the mercury in the glass falls to 74°, when the child has completed the second year of its life, it may then with propriety be termed a cool bath.

With respect to the manner of using the cold bath, few observations are necessary. It is more suitable in summer than in winter, especially to those not accustomed to it; and the most proper time is the morning, or at least before dinner. One should never enter it chilly, but always in a temperate state, inclining rather to warm. A quick immersion with the head foremost is the best mode of bathing. When this is not practised the head should always be first wetted; and there needs no stay in the water after the shock is received. When an agreeable glow is immediately diffused over the body, it is a sign that the bath has proved salutary; but if it be succeeded by chillness, head-ach, or any internal pain, and this likewise repeatedly, there is reason to desist from the use of it.

But the external use of water is not the only way in which the body may be affected by this useful and medicinal element. Mineral waters, or those impregnated by nature with peculiar qualities, exert a powerful influence on the animal œconomy when internally used; some by strengthening the constitution, some by purging, and others by increasing the discharges of urine, perspiration, or both. Waters of this kind are to be found in almost every country, and in this island they are numerous. For the convenience of the reader we shall mention some of the principal, with the diseases in which they are chiefly celebrated; but without specifying the various ingredients which enter into their composition.

Malvern Water.

The extensive and lofty range of the Malvern hills occupies a great part of the south-west of the county of Worcester, forming a distant boundary to the rich vale of the Severn lying to the east, and standing as a frontier between this county and that of Hereford. The village of Great Malvern, situated about half way between Ledbury and the city of Worcester, has long been celebrated for a spring of remarkable purity, which, from the reputed sanctity of its waters, has acquired the name of Holy Well. The water of this well is chiefly used externally, in painful and deep seated ulcerations, the consequence of a scrophulous habit, and in some cutaneous disorders; but it is also used with some advantage in a few internal diseases. The most important of these are painful affections of the kidneys and bladder, attended with the discharge of bloody, purulent, or fœtid urine; the hectic fever produced by scrophulous ulcerations of the lungs; or very extensive and irritating sores on the surface of the body; and also fistulas of long standing, which have been neglected, and become constant and troublesome sores.

The internal use of this water is sometimes attended at first with a slight nausea, and not unfrequently, for the first day or two, it occasions some degree of drowsiness, vertigo, or slight pain of the head, which comes on a few minutes after drinking it. But this effect is ascribed to a temporary fulness of the vessels of the head, occasioned by the great ease and rapidity with which the water is absorbed; and these symptoms go off spontaneously after a few days, or may readily be removed by a mild purgative. The effects of this water upon the bowels are by no means uniform: very often it purges briskly for a few days; at other times the body is rendered costive by its use, especially in those who are accustomed to the use of malt-liquors. In all cases it increases the discharge of urine, and improves the general health of the patient.

Bristol Water.

Bristol Hot Well is situated about a mile below the city of Bristol, and within four miles of the British channel. The water of this spring, from its extraordinary quality of keeping untainted for a great length of time in hot climates, forms a most valuable provision for long voyages, and is accordingly exported in great quantities to distant parts.

The sensible effects produced by this water, when fresh from the spring, are, at first a gentle glow in the stomach, succeeded sometimes by a slight degree of head-ach and giddiness, but which soon go off. In its effects on the kidneys it nearly resembles the Malvern water, as it does likewise in its operation on the bowels; though on the whole a tendency to costiveness is the more general consequence of a continued use of Bristol water; and therefore the use of a mild laxative is often necessary.

With respect to the manner of employing this water medicinally, the time recommended for the first dose is before breakfast, as early in the morning as the patient chooses to rise, when it is usual to take two glasses; interposing between them half an hour spent in gentle exercise. Two more glasses, with the same interval, are generally given about the middle period between breakfast and dinner; and the water is seldom afterwards repeated in the course of the day. The size of the glass varies from a quarter to half a pint, which last is reckoned a full dose: but it never ought to be taken in such a quantity as to cause any oppression or sense of weight in the stomach.

This water is regarded as beneficial in several disorders of the alimentary canal; in the symptoms of indigestion which often afflict Europeans, who have resided many years in hot climates; in bilious diarrhœas likewise, and in slight dysenteries. It has also acquired reputation in the cure of the diabetes, or at least in affording considerable relief in this malady. But it has, above all, been celebrated in the cure of the consumption of the lungs; though on this subject there is a difference of opinion among medical writers. The season for the Hot Wells is generally from the middle of May to October.

Matlock Water.

This water issues from a spring in a mountainous part of Derbyshire, where the village of that name is situated on the brow of a lime-stone hill, at the foot of which flows the rapid stream of the Derwent. The cold and tepid springs are singularly situated in this hill. All the tepid waters arise from fifteen to thirty yards above the level of the Derwent, whilst those both above and below are cold; and even the sources of the latter intermix with those of a higher temperature.

Matlock water is chiefly used as a tepid bath, or at least one which comes to the extreme limits of a cold bath. On this account, it produces but little shock on immersion, and is therefore well fitted for those in whom the re-action is too weak to overcome the effects of the ordinary cold bath.

Buxton Water.

Buxton water takes its rise at the village of Buxton, on the western side of the county of Derby. The waters of this place appear to have maintained considerable reputation in the cure of various diseases for a longer period, without interruption, than almost any mineral water in the kingdom. The springs here are very numerous, and the quantity of water abundant. It is employed largely both in external and internal use; and one of these modes is often applicable in cases where the other would be prejudicial. The great recommendation of the Buxton baths is the copious supply of a very pure water of the high temperature of 82 . As this temperature is several degrees below that of the human body, a slight shock of cold is felt on the first immersion into this bath; but this is almost immediately succeeded by an agreeable glow over the whole body. The cases most relieved by Buxton water, used externally, are those in which a loss of action, and sometimes even of perfect sensation, has affected the limbs, occasioned by long or violent inflammation, or external injury. Thus, the chronic rheumatism in all its forms, succeeding to the acute, and where the inflammation has been chiefly seated in moving parts, is often wonderfully relieved by this bath; and the person is so much recovered as to be enabled to use the more powerful remedy of sea-bathing, or the common cold bath. The loss of motion, however, produced by the true palsy will seldom admit of much relief from these waters.

With regard to the internal use of Buxton water, it is found of considerable service in cases of weak digestion, the consequence of luxurious indulgence. Another class of disorders much relieved by these waters is the painful complaints of the stone and gravel. The manner of using this water is the same as has been mentioned with respect to that of Malvern.

Bath Waters.

The city of Bath has long been celebrated for its numerous hot springs, which are of a higher temperature than any other in this kingdom, and indeed are the only natural waters which we possess, that are at all hot to the touch; all the other thermal waters being of a heat below the animal temperature, and only exceeding the general average of the heat of common springs. There are three principal sources of these waters, namely, the king's bath, the cross bath, and the hot bath, which all arise within a short distance from each other. The supply of water is so copious, that all the large reservoirs used for bathing are filled every evening with water fresh from their respective fountains.

Besides the other ingredients in the composition of this celebrated water, it holds dissolved in it a portion of iron, in a quantity, however, so extremely small, as to be nearly the least that is possible to be detected by chemical tests. This water, when drunk fresh from the spring, has in most persons the effect of raising and rather accelerating the pulse, increasing the heat, and promoting the secretions. These effects generally appear very soon after drinking the waters, and, in some constitutions, will last for a considerable time. It is, however, particularly in invalids that any such symptoms are observed. This water has also a considerable disposition to pass off by urine, even when taken in a moderate quantity: and this may be regarded as one of its most salutary operations. Its effect on the bowels, like that of all waters which do not contain any purgative salt, is extremely various; but, in general, the use of this water renders the body costive, not so much from any astringency with which it is endowed, as from the want of an active stimulus to the intestines, and probably also from the determination which it occasions to the skin: for, if perspiration be suddenly checked, during the use of Bath water, a purging sometimes ensues.

The stimulating properties of these waters appear to be chiefly exerted in the stomach. When they are likely to prove beneficial, they excite, on being first taken, a pleasing glow in this organ; which is soon succeeded by an increase of appetite and spirits, and a quick determination to the kidneys. On the other hand, when they sit heavy on the stomach, and produce sickness, when they occasion head-ach, thirst, and dryness of the tongue, and do not pass off by urine or perspiration, their operation is unfavourable, and the farther use of them is not to be recommended.

One of the most important uses of the Bath water, however, is its external application; and, employed in this way, its effects seem to differ in no respect from those of common water, heated to the same temperature, and similarly applied.

The cases to which this water is peculiarly adapted are mostly of the chronic kind; and by a steady perseverance in this remedy, some very obstinate disorders have given way. The diseases in which it is chiefly beneficial are the *chlorosis* or green sickness, rheumatism, gout, and some kinds of palsy.

Tunbridge Water.

This is the most noted of the simple chalybeates in our island, especially in this part of the kingdom. Tunbridge-Wells is a populous village in the county of Kent, about thirty-six miles south of London. Here are many chalybeate springs, all of which resemble each other very much in chemical properties; but two of these are chiefly used. The effects of this water are evidently of the stimulant kind. Soon after taking a moderate dose, the pulse rises in strength, and the patient, if previously chilly and pale, feels a degree of glow occasioned by the increased circulation. Both the appetite, likewise, and the general spirits, are improved; though these effects are much more striking in some than in others, especially in persons of an irritable and sanguine habit. It is, however, not uncommon, on beginning the use of these waters, for the patient to be affected with nausea, vomiting, and pain about the region of the stomach; or else a heaviness of the head, slight vertigo, and sense of fulness over the whole body. Sometimes these symptoms are so constant as to suggest the propriety of renouncing the use of the waters; but in general they are transient, and disappear in a few days, especially when there ensues a permanent increase in any of the natural excretions. When the bowels are foul, and loaded with bilious impurities, the water often purges pretty briskly at first, but this effect ceases as soon as the intestines are cleared. All the preparations of iron, and these waters among the rest, are known to tinge the fæces black, a circumstance in itself of no importance, but of which the patient should be apprised to prevent him from being affected with any groundless apprehension. The secretion which these waters most commonly excite, is that of urine, and is generally in the greatest quantity where they agree best with the constitution of the patient. Sometimes they likewise induce a more perspirable state of the body, especially when the use of them is accompanied with a good deal of exercise.

On the whole, the general operation of these chalybeates is to increase the various secretions in a gradual uniform manner, and at the same time to impart to the body a perceptible increase of vigour and nervous energy. It is, therefore, chiefly in chronic disorders, arising from slow beginnings, and attended with laxity and debility of the solids, but without much affection of any of the bowels, that these waters are found to be peculiarly useful. They are of eminent service in cases of impaired appetite, slow digestion, flatulent distensions of the belly, difficult respiration arising from sympathy with the stomach, and occasional vomiting of phlegm.

On beginning a course of these waters, it is a general practice to premise some evacuation, either a gentle emetic, where the stomach is foul, or, what is better, some opening medicines. It is likewise usual, where the water is not of itself purgative, to intermit its use for a day or two after it has been regularly taken for a week or ten days; and to clear the bowels during that interval by some proper laxative, or else to add a small quantity of vitriolated soda or magnesia to the water every two or three days. To persons of a weak irritable stomach, and especially females, the fresh drawn water is apt to prove too cold to the stomach, and to occasion a nausea or sickness, which always frustrates the general intention of the water. To prevent such an effect, it is proper to take the chill off the water; the best way of doing which, without prejudice to the water, is to put it into a bottle closely corked, and immerse it in hot water.

In drinking the Tunbridge water, the whole of the quantity daily used is taken at two or three intervals, beginning at about eight o'clock in the morning, and finishing about noon. The dose at each time varies from about one to three quarters of a pint, according to the age, sex, and general constitution of the patient, and especially the duration of the course: for it is found that these waters lose much of their effect by long habit.

Cheltenham Water.

The spring of this denominaton has its source at Cheltenham, a small town in Gloucestershire. The water is decidedly saline, and contains much more salt than most of the waters hitherto mentioned. By far the greater part of the salts which it contains are of the purgative kind, and therefore an action on the bowels is a constant effect produced by this medicinal spring. Cheltenham water is likewise a chalybeate, and, if the analysis given of it be accurate, it is one of the strongest that we are acquainted with. It has besides a slight impregnation of sulphur, but so little as to be scarcely appreciable, except by very delicate chemical tests.

The sensible effects produced by this water are generally, on first taking it, a degree of drowsiness, and sometimes head-ach, but which soon goes off spontaneously, even previous to the operation on the bowels. A moderate dose acts powerfully and speedily as a purgative, but withqut occasioning griping, or producing that faintness and languor which often succeed the operation of the rougher kind of purges. For this and some other reasons, Cheltenham water may be in most cases persevered in for a considerable length of time without producing any inconvenience to the patient; and during its use the appetite will be improved, the digestive organs strengthened, and the whole constitution invigorated.

This medicinal spring has been found of essential service in the cure of glandular obstructions, especially those that affect the liver, and the other organs connected with the functions of the alimentary canal; and it has also great effect in some cutaneous complaints, usually termed scorbutic eruptions.

The season of drinking the Cheltenham water is during the whole of the summer months. The water should, if possible, be always drunk at the fountain head, and never kept long exposed to the air. The dose must vary considerably, both from the great difference of the action of purgatives in different habits, and from the intention with which the water is given. Half a pint of the water is sufficient for a single dose; and this quantity, repeated three or four times during the day at proper intervals, is generally enough to produce the desired effect on the bowels.

Scarborough Water.

The town where this water issues is situated at the foot of a very high cliff on the Yorkshire coast, overlooking a spacious bay, surrounded by lofty rocks. There are here two species of chalybeate waters, and they differ considerably in their composition, though rising nearly contiguous to each other. One of them is a simple carbonated chalybeate, similar to the Tunbridge water; the other, which is better known, and more frequented, as well as more particularly distinguished for its qualities, has, in conjunction with the iron, a considerable mixture of purging salt, which adds much to its value.

Scarborough water, from its composition, may be ranked among the purging chalybeate waters, though the quantity of the purgative salt is too small to operate with activity, except an unusual and often inconvenient dose be taken. Its general effect, however, even when taken in moderation, is to determine gently to the bowels, rather than to the kidneys, which is the ordinary way in which the simple waters pass off.

With regard to the diseases for which this water may be used with advantage, they are in general the same as were mentioned in the account of the Cheltenham spring. But, in many cases, it would be advisable to increase the purgative effect of this water by adding similar salts, because few stomachs could bear so many pints of this water as would be requisite to produce a full evacuation from the bowels. On this account, it is chiefly as an alterative that the Scarborough water can be employed in its natural state.

Hartfell Water.

This chalybeate water issues from the base of a very high mountain of the same name, about five miles from Moffat in Scotland. It is endowed with no inconsiderable share of medicinal virtue in the cure of several very dangerous diseases. Its first effects upon the patient are sometimes giddiness and sickness, especially when a large dose has been taken. Its operation on the bowels is not uniform: sometimes it produces gripes, and, on first using it, a diarrhœa not unfrequently follows: but it much oftener occasions costiveness, which may be regarded as its most natural effect.

This water has been found of great service in disorders of the stomach and bowels, bloody flux, bloody urine, immoderate flow of the *menses*, or their suppression, *fluor albus*, gleet, &c. In general, it may be said to promise advantage in all cases where there is a relaxation of the solids. Much benefit has likewise been derived from it, employed both internally and externally, in old and languid ulcers, where the texture of the diseased parts is very lax, and the discharge profuse and ill-conditioned.

The dose of this chalybeate is more limited than that of most of the mineral springs. The patient, especially if he be of a delicate and irritable habit, ought to begin with a very small quantity: for an over-dose is apt to be very soon rejected by the stomach, or to occasion griping and disturbance in the intestinal canal. Few patients will bear more than an English pint in the course of the day; but this quantity may be long continued in. It is often of advantage to warm the water for delicate stomachs; and this may be done without much injuring its properties.

Harrowgate Water.

The villages of High and Low Harrowgate are situated in an agreeable country, in the centre of the county of York, adjoining to the town of Knaresborough. The whole of the contiguous district abounds with mineral springs of various qualities, but chiefly sulphureous and chalybeate. Harrowgate in particular has long been known for its valuable springs of both these kinds. Some years ago the chalybeate was the only one used internally, whilst the sulphureous water was confined to external use; but at present the latter is employed largely as an internal medicine.

The sulphureous springs of Harrowgate consist of four, and they all appear to take their rise from a large bog at a short distance from the wells. They resemble each other closely in all their qualities; but one of them being much more strongly impregnated with the sulphureous principle than the rest, it is the only one used for drinking, whilst the three others are devoted to the supply of the baths.

The sensible effects produced by this water are often a head-ach or giddiness on beginning to use it; with a purgative operation, which is mild, speedy, and seldom attended with pain or griping.

Harrowgate water, like that of all the other saline springs, is used in many disorders of the stomach and intestines, as well as in the derangements of the biliary secretion, which so often produce these complaints. It is likewise of great benefit in the scrofula, and in various visceral obstructions; but that for which it is most celebrated is its efficacy in curing a number of cutaneous disorders. It is also of advantage in the piles, and in symptoms produced by several species of worms.

This water is generally taken in such doses as to produce a sensible effect on the bowels; for which purpose it is found necessary to take in the morning three or four glasses, of rather more than half a pint each, at moderate intervals.

To correct the nauseous taste with which it is accompanied, it is not unusual to take some aromatic seeds, sugar comfits, and the like; but Dr. Garnett recommends a small quantity of sea-biscuit or coarse bread, which will remove the taste very speedily, and not cloy the stomach. The water should be taken fresh from the spring, and cold, where the stomach can bear it, especially in those cases where the sulphureous ingredient is particularly wanted.

The duration of a course of Harrowgate water varies more than that of most other medicinal springs, on account of the great diversity of the diseases in which it is used. Cutaneous complaints of a bad kind are what require the greatest perseverance; and in these the patient ought to drink the water several months at intervals, especially if he perceives any benefit from the use of it during a few weeks.

Moffat Water.

The village of Moffat is situated at the head of a valley on the banks of the Annan, about fifty-six-miles south-west of Edinburgh. It is surrounded by hills, some of which are lofty; and of these the Hartfell mountain has been already noticed for the chalybeate water which springs from its basis. This sulphureous water, the Harrowgate of North Britain, issues from a rock a little below a bog, whence it probably derives its sulphureous ingredient. Almost the only sensible effect which it produces, is that of increasing the discharge of urine. It sometimes indeed purges; but this seems to proceed more from taking it in an excessive quantity, than from any purgative virtue it possesses.

Moffat water has acquired great celebrity for the cure of cutaneous eruptions of every kind. The scrofula is another disorder in which it has proved of great benefit; but chiefly in the earlier stages and slighter symptoms of this formidable malady. It often, however, disperses glandular tumors without suppuration, or any bad consequence. This water is also employed in many bilious complaints; in cases of weak digestion, and general want of action in the alimentary canal, as well as in troublesome symptoms of the gravel and stone.

In drinking it, the quantity usually prescribed is from one to three bottles every morning; but this allowance is much too large for persons of a delicate stomach. It should, however, be used pretty freely in such doses and intervals as the patient can bear*.

Sea Water.

This, if we except some brine-springs and salt-lakes, is by far the strongest in saline matter of all the natural waters which are medicinally employed. The water of the sea, as it washes the shores of our island, is a very heterogeneous compound, containing a considerable quantity of saline substances, and holding suspended an infinite number of minute animal and vegetable particles, composed of all the variety of marine productions that abound in this element.

It is fully ascertained by experiments, that the proportion of salt in sea-water varies considerably at different depths, and in different latitudes. In general, the water at the tropics is salter than at the poles, and the surface less salt than at a considerable depth. The water of our own coasts contains, at an average, about $\frac{1}{30}$ of its weight of salt.

The disorders for which sea-water may be used internally are, in general, the same for which all the simple saline waters may be employed, and have been already enumerated. The internal employment of sea-water, however, is chiefly made an auxiliary to its external application, which is now so generally used. It is chiefly recommended in scrofulous affections, and hard indolent tumors in certain glands, particularly those of the neck. In all such cases, however, the use of it is almost entirely confined to those periods of the disease when there is no tendency to a hectic ſever.

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* The common people frequently take, in one morning, from three to five Scots pints (or from six to ten English quarts); and an instance is mentioned by Mr. Milligin of a man who in eight hours swallowed the enormous quantity of thirty-two English quarts, and without feeling any other inconvenience than a slight giddiness and head-ach.

Sea water should be taken in such doses as to prove moderately purgative; the increase of this evacuation being the peculiar object for which it is employed. About a pint is generally sufficient for the purpose; and this should be taken in the morning at two doses, with an interval of about half an hour between each. It is seldom necessary to repeat the dose at any other time of the day. But it is often necessary to persevere for a long time in the use of the ſea water; and, happily, this perseverance is seldom productive of any bad consequences to general health. Dr. Russsel mentions cases where a pint of this water has been taken daily for 200 mornings, without any interruption, which produced a continued course of moderate purging; yet the appetite continued all this time perfectly good, and the health improved.

CHAP. LI.

Of Empirics.

AFTER a long attention to the cure of diseases, it is mortifying to reflect how much this arduous province is infested by a race of ignorant and shameless empirics, who are daily tampering with the public credulity, to the destruction of numbers of lives. It may safely be affirmed, that a very considerable part of the annual deaths in the capital and its vicinity, exclusive of those in other parts, are occasioned by the profligate temerity of these unprincipled impostors. There is hardly a news-paper that does not teem with the audacious falsehoods, and pompous pretensions, of this imposing class of mercenary, and yet (I use not too harsh an expression) tolerated murderers. What man who is conversant with physic can peruse without indignation the public advertisements of these quacks, in which every one arrogates to himself the possession of superlative knowledge, and ascribes to his respective nostrum such contradictory and inconsistent qualities as were never yet united in any one medicine in the world?

To the disgrace, however, of the public credulity, not a few of these impostors attain to a degree of opulence that is seldom acquired even in the scientific and legitimate prosecution of medical practice. The artifices which they employ to delude the multitude are well known to many. Having picked up the name of some extremely active medicine, the bold and indiscriminate use of which must therefore be proportionably dangerous, they immediately resolve on converting it into a nostrum, and endeavour to disseminate its unrivalled praises either by advertisements or handbills. But being themselves totally illiterate, they have, for this purpose, recourse to some other person, whom they engage for a stipulated reward to fabricate the pernicious illusion. A hyperbolical panegyric on the wonderful remedy is accordingly vamped up, and preparations are made for commencing a lucrative trade with the public. Should the channel of communication be the public papers, it is a settled point, that if daily or frequent advertisements can be supported for the space of some months, the fame of the medicine, whatever be its real character, is established. The better to promote this purpose, innumerable authorities in favour of the nostrum are asserted in general terms; venality is again exerted to furnish specific testimonials in its support; and if, among the number of unfortunate purchasers or patients, there exists any person who has not only taken it with impunity, but even with some advantage, (and what extremely powerful medicine may not sometimes by chance have good effects?) the fortuitous incident is immediately blazoned with all the ostentation of interested zeal and affected popularity; and a reference to uncorrupted testimony resounded through every channel of information. By a strange association, truth now is confidently adduced in support of falsehood; and the recovery of one or two persons is rendered the unhappy means of draining the purse, undermining the health, and destroying the lives of thousands.

Such, in fact, is the general progress of empiricism. Were the task not invidious, and the objects too despicable for any other than juridical cognizance, which they merit in a superlative degree, the representation here given might be supported by unquestionable authority. It is hoped, however, that enough has been said to influence the minds of the judicious with respect to this iniquitous practice, which becomes every day more alarming, and threatens the more credulous part of the community with the most fatal effects.

This country, through the blessing of Providence, has been for many ages exempted from the horrors of the famine, the pestilence, and the sword; but the infatuation of a numerous body of the people has subjected it to the ravages of another public calamity, which, though generally more slow in its operation than any of the former, is equally destructive in the end. Humanity shudders at the horrible depredations committed on the human constitution by this empirical tribe, who subsist by public delusion, and riot, where they can, in the irreparable ruin of those whom they entice into their snares. What consumptive visages, what enfeebled frames, what mutilated bodies, and what palsied limbs, are the miserable monuments of that ignorance and criminal temerity by which they are actuated!

In certain diseases, it is doubtless an object of importance to the unfortunate patients, that their cure should be conducted with secrecy, and likewise to many, at the smallest possible expence; but they do not consider that, while they are economical in this article, they are fatally prodigal of health. They sneak, under night, to the mansion with the gilded lamps, or enter it perhaps by a private door in the day-time; not reflecting that the same delusion and folly which occasioned their disease, now leads them to complete their destruction. They grasp with eagerness the pill box or the phial, which they are assured contains the elixir of speedy and effectual convalescence; but, alas! the flattering hope proves of short duration. They may feel perhaps, for a little, a suppression of the symptons of their disease; but the destructive embers are smothered, not extinguished; and, while preying upon the vitals, are acquiring a malignity which will again break forth with redoubled violence.

It is not, however, in one disease only, nor in the lower class of the people, that this infatuated credulity operates; we find it prevail even amongst those from whose superior situations in life more discernment might be expected; but who have nevertheless become voluntary dupes to the meanest artifices of empiricism. Witness the successful imposture practised with regard to the inspection of urine; the visionary notion of charms, and the whimsies of animal magnetism!

But it is time that such chimerical doctrines should be consigned to the regions of barbarism, and flourish no longer in a soil where almost every other physical prejudice has been rooted up and exploded by the progress of science. To effect this salutary purpose, nothing can have a more powerful tendency than the view which has been given, in the preceding pages, of the causes and cure of diseases. By removing the mysterious veil which for a long time concealed this useful branch of knowledge from the eyes of the public, it ought, on one hand, to preclude for ever all recourses to empirical impostors, and, on the other, to show in what cases it will be proper to call in the assistance of a physician. Within the bounds prescribed by this limitation any person of an ordinary capacity may act in conformity to the rules which have been delivered. By this means a prudent oeconomy will be consulted, unhappy patients will no longer be shipwrecked on the dangerous rocks of empiricism, with all their deceitful allurements, but will be conducted through the safest and most direct road to the recovery of health, when that desirable object is practicable.

Ah! in what perils is vain life engag'd!
What slight neglects, what trivial faults destroy
The hardiest frame! Of indolence, of toil,
We die; of want, of superfluity:
The all-surrounding heaven, the vital air,
Is big with death. And though the putrid south
Be shut; tho' no convulsive agony
Shake, from the deep foundations of the world,
Th' imprison'd plagues; a secret venom oft
Corrupts the air, the water, and the land.
What livid deaths has sad Byzantium seen!
How oft has Cairo, with a mother's woe,
Wept o'er her slaughter'd sons and lonely streets!
Even Albion, girt with less malignant skies,
Albion the poison of the Gods has drunk,
And felt the sting of monsters all her own.

ARMSTRONG.

THE END.

APPENDIX:

CONTAINING

AN ALPHABETICAL ACCOUNT

OF THE

SUBSTANCES most commonly employed in MEDICINE,

WITH THE

VIRTUES AND USES OF EACH,

As confirmed by Experience and Observation:

ALSO

The Method of Preparing and Compounding such Medicines as are recommended in the preceding Work, with the Addition of several others which may be useful:

An Account of Acids, Absorbents, Alkaline and Neutral Salts:

A List of the most useful Simples, and Medicinal Preparations for a Medicine Chest:

A Table of Doses for different Ages; with the Denominations of the Apothecary's Weights, and English Wine-measure: and,

A Glossary, explaining the Medical Terms necessarily used in the Work.

APPENDIX.

An Alphabetical Account of the Substances most commonly employed in Medicine; with the Virtues and Uses of each, as confirmed by Experience and Observation.

Aloes, Socotorine.

THIS substance is obtained from the aloes plant, which is a native of Africa, and flowers most part of the year. A tract of mountains, about fifty miles from the Cape of Good Hope, is wholly covered with the aloes plants, where the planting of them therefore is unnecessary; but in Jamaica and Barbadoes they were first brought from Bermuda, and gradually propagated themselves.

The socotorine aloes is so named from being formerly brought from the island Socotria, or Zocotria, at the mouth of the Red Sea. It comes wrapt in skins, and is of a bright surface, and in some degree pellucid: in the lump, of a yellowish red colour, with a purplish cast; when reduced into powder, of a golden colour. It is hard and friable in the winter, somewhat flexible in the summer, and softens between the fingers. Its bitter taste is accompanied with an aromatic flavour, but not sufficient to prevent its being disagreeable: the smell, however, is not very unpleasant, and somewhat resembles that of myrrh.

All the kinds of aloes consist of a resin united to a gummy matter, and dissolve in pure spirit, proof spirit, and proof spirit diluted with half its weight of water; the impurities only being left. They dissolve also, by the assistance of heat, in water alone; but, as the liquor grows cold, the resinous parts subside.

Aloes is a well-known purgative; a property which it possesses not only when taken internally, but also by external application. This cathartic quality of aloes does not, like most of the others of this class, reside in the resinous part of the drug, but in the gum; for the pure resin has little or no purgative power. Aloes, taken in large doses, often produces much heat and irritation, particularly about the rectum, from which it sometimes occasions a bloody discharge. To those, therefore, who are subject to the hæmorrhoids, and to women in a state of pregnancy, the exhibition of it has been productive of considerable mischief: but, on the contrary, by those of a phlegmatic constitution, or suffering by uterine obstructions, and in some cases of dyspepsy, palsy, gout, and worms, aloes may be employed as a laxative with peculiar advantage. Its purgative effects are not always in proportion to the quantity taken; and as its principal use is rather to obviate costiveness than to operate strongly, this ought to be no objection to its use.

Respecting the choice of the different kinds of aloes, it may be observed, that the socotorine contains more gummy matter than the hepatic, and hence is found to purge with more certainty and greater irritation. It is, therefore, most proper where a stimulus is required, or for promoting the uterine discharge: while the hepatic is better calculated for the purpose of a common purgative; and also, by containing more resin, answers better for external application, considered as a vulnerary.

Small doses of aloes, frequently repeated, not only cleanse the stomach and bowels, but likewise attenuate and dissolve viscid juices in the remoter parts, quicken the circulation, warm the habit, and promote the uterine and hæmorrhoidal fluxes. It is particularly serviceable to persons of a phlegmatic temperament and sedentary life, and where the stomach is oppressed and weakened; but in dry bilious habits it proves injurious, by immoderately heating the blood and inflaming the bowels.

Aloes is likewise, on account of its bitterness, supposed to kill worms, either taken internally, or applied in plaster to the umbilical region. It is also highly serviceable for restraining external hæmorrhages, and cleansing and healing wounds and ulcers.

The ancients gave aloes in much larger doses than is customary at present. Modern practice rarely exceeds a scruple, and limits the greatest dose to two scruples. For the common purposes of this medicine, ten or twelve grains are sufficient: taken in these or less quantities, it acts as a gently stimulating laxative, capable of removing, if duly continued, very obstinate obstructions.

Aloes, in doses of a few grains, is occasionally mixed into pills, with a third or equal parts of some saponaceous or resolvent substance, such as extract of liquorice or gentian, white soap, or the like. It is a slow but sure-working purge, and is generally taken at bed-time, seldom operating until the next day. It is sometimes employed in larger doses, to produce the bleeding piles, when they have been suddenly and injuriously suppressed.

Alum.

This is a salt artificially produced from certain minerals, by calcining and exposing them to the air; after which the alum is elixated by means of water. The largest quantities are prepared in England, Germany, and Italy.

Alum is a powerful astringent, and is reckoned particularly serviceable for restraining hæmorrhages, and immoderate secretions from the blood; but less proper in intestinal fluxes. In violent hæmorrhages, it may be given in doses of fifteen or twenty grains, nay even to half a drachm, and repeated every hour, or half hour, till the bleeding abates. In other cases, smaller doses are more advisable: for, if large, they are apt to nauseate the stomach, and occasion violent constipation of the bowels. It is best administered with dragon's blood, or gum-kino, gum-arabic, spermaceti, or opium. It is used also externally, in astringent and repellent lotions, gargles, and collyria, or eye-waters.

Ammoniac, Gum.

We have no certain account of the plant which produces this juice: it is said, however, to be an exudation from a species of ferula. This gum has a nauseous sweet taste, followed by a bitterness; and a peculiar smell, not very grateful. It is an useful medicine in hysterical disorders, proceeding from a deficiency of the menstrual evacuations, and in obstructions of the abdominal viscera. It likewise proves of considerable service in some kinds of asthma, where the lungs are oppressed by viscid phlegm. Externally it softens and ripens hard tumors: a solution of it in vinegar is recommended by some for resolving even scirrhous swellings.

Angustura-Bark.

This is the bark of a tree growing in the interior parts of Africa. It is a powerful bitter, joined with an aromatic, and, as is supposed, likewise, with a narcotic principle; and has been thought to exceed the Peruvian bark, both as a tonic and antiseptic. This bark is best prepared by infusion. It has been employed for the same intentions as the Peruvian bark. In intermittents it is sometimes inferior; but in low fevers, and those of the putrid kind, it has seemed more efficacious. In head-achs, attended with fever, but proceeding from the stomach; in dyssentery and dyspepsy, it has been of great service. From various experiments, the Angustura-bark appears to be a powerful antiseptic.

Arabic, Gum.

This is produced from a plant called mimosa Nilotica, which grows in great abundance over the vast extent of Africa; but gum-arabic is chiefly obtained from those trees which are situated near the equatorial regions. It is usually imported into England from Barbary, in large casks or hogsheads. Gum-arabic of a pale yellowish colour is most esteemed. It does not admit of solution by spirit or oil, but in twice its quantity of water it dissolves into a mucilaginous fluid, of the consistence of a thick syrup, and in this state answers many useful purposes, by rendering oily, resinous, and fat substances miscible with water.

The glutinous quality of gum-arabic is preferred to most other gums and mucilaginous substances as a demulcent, in coughs, hoarsenesses, and other catarrhal affections, in order to obtund irritating acrimonious humours, and to supply the loss of abraded mucus. It is likewise very generally employed in heat of urine, and strangury; but to produce any considerable effect in these complaints, it ought to be taken in the quantity of several ounces in the day. It is the opinion of Dr. Cullen, "that even this "mucilage, as an internal demulcent, can be of no service "beyond the alimentary canal."

Asafœtida.

This is the concrete juice of a large umbelliferous plant growing in Persia. It has a bitter, acrid, pungent taste, and is well known by its peculiar nauseous fetid smell, the strength of which is the surest test of its goodness. This odour is extremely volatile, and of course the drug loses much of its efficacy by keeping.

Asafœtida is a medicine of very general use, and is certainly a more efficacious remedy than any of the other fetid gums. It is most commonly employed in hysteric and hypochondriac disorders, flatulent colics, and in most of the diseases termed nervous. But its chief use is derived from its antispasmodic effects; and it is thought to be the most powerful remedy we possess for those peculiar convulsive and spasmodic affections which often recur in the first of the diseases above mentioned, both taken into the stomach and in the way of clyster. It is also recommended in obstructions of the *menses*, asthmatic complaints, against worms, and as having a tendency to produce sleep. Where we wish it to act immediately as an antispasmodic, it should be used in a fluid form, as that of tincture.

Balm.

This plant, when in perfection, has a pleasant smell, somewhat of the lemon kind, and a weak, roughish, aromatic taste. Some writers have entertained so high an opinion of balm, that they ascribed to it the virtue of prolonging life beyond the usual period. Strong infusions of the herb, drunk as tea, and continued for some time, have done service in a weak lax state of the viscera. Balm is now chiefly used as a diluent in febrile diseases; and, when acidulated with juice of lemons, makes a very pleasant drink.

Bark, Peruvian.

This is the bark of a very large tree, a native of Peru. There are several species of this bark, differing from each other in colour; but, at present, the use of the bark is chiefly confined to the pale and red kind; and the nearer the former resembles the latter, the more it is esteemed.

The bark first acquired its reputation for the cure of intermittent fevers; and in these, when properly exhibited, it rarely fails of success. In remittent fevers, especially during the times of remission, it may also be employed with great success. In continued fevers, of the nervous and putrid kind, the bark is very generally used, as well suited to counteract the debility or putrescency which marks the progress of the disorder. Of late, the bark has been much employed in acute rheumatism, particularly after the violence of the disease has been in some measure moderated by antiphlogistic treatment, or when evident remissions take place. In the confluent small-pox, after the maturation of the pustules is completed, or where symptoms of putrescency, or a dissolved state of the blood, supervene, the bark cannot be too liberally employed.

The other diseases in which the bark is recommended, are gangrenous sore throats, and indeed every species of gangrene: scarlatina, dysentery, all hæmorrhages of the passive kind; likewise other increased discharges; some cases of dropsy, especially when unattended with any particular local affection; scrophula, ill-conditioned ulcers, rickets, scurvy, states of convalescence, or recovery from diseases, certain stages of consumption of the lungs, &c.

Broom, Common.

The tops and leaves of broom have a nauseous taste, which they impart, by infusion, both to water and spirit. They are commended for their purgative and diuretic qualities, and have therefore been successfully employed in hydropic cases. The ashes of broom have also been much used in dropsies; but the efficacy of this preparation depends entirely upon the alkaline salt, and not in the least upon the vegetable from which it is obtained.

Buckbean, or *Water Trefoil.*

This plant is common in every part of England: it grows in marshes and ponds, producing flowers about the latter end of June. The whole plant is so extremely bitter, that, in some countries, it is used as a substitute for hops in the preparation of malt liquors.

Marsh trefoil has gained great reputation in scorbutic and scrophulous disorders, in dropsy, jaundice, asthma, rheumatism, and worms. Inveterate cutaneous diseases have been removed by an infusion of the leaves, drunk to the quantity of a pint a-day, at proper intervals, and continued some weeks. From one to two scruples of the leaves in powder may be given two or three times a-day; or perhaps a strong infusion is preferable.

Burdock.

This plant is common in waste grounds and road sides: it flowers in July and August, and is well known by the burs, or scaly heads, which stick to the clothes. The part chiefly used for medical purposes is the root: it has no smell, but tastes sweetish, with a slight austerity and bitterishness. A decoction of it has of late been used in rheumatic, scorbutic, dropsical, and other disorders. It is made by boiling two ounces of the fresh root in three pints of water to two; which, when intended as a diuretic, should be taken in the course of two days, or, if possible, in twenty-four hours.

Camphor.

This is a substance extracted from the wood and roots of a tree growing in different parts of the East Indies. Pure camphor is very white, pellucid, and somewhat unctuous to the touch; of a bitterish, aromatic, acrid taste, yet accompanied with a sense of coolness; of a very fragrant smell, somewhat like that of rosemary, but much stronger. It is totally volatile, and inflammable; soluble in vinous spirits, oils, and the mineral acids; not in water, alkaline liquors, nor the acids of the vegetable kingdom.

Camphor is esteemed one of the most efficacious diaphoretics; and has long been celebrated in fevers, malignant and epidemical distempers. In the delirium of fevers, where opiates fail of procuring sleep, and often aggravate the symptoms, this medicine frequently succeeds. In spasmodic and convulsive affections it is also of great service, and even in the epilepsy it has been useful. The taste of camphor is best corrected by vinegar; which seems even to render it less disagreeable to the stomach.

Cardamom.

Cardamom-seeds are very warm, pungent, aromatic, and grateful, frequently employed as such in practice. They are said to have this advantage, that, notwithstanding their pungency, they do not, like those of the pepper kind, immoderately heat or inflame the bowels. They are considered as warm, cordial stomachics, and may be taken in powder from five to ten grains or more.

Caraway.

The seeds of caraway have an aromatic smell, and a warm, pungent taste. They are frequently employed as a stomachic and carminative in flatulent colics and the like. They contain a large proportion of oil; and except some peculiarity in odour, neither their seeds nor their oil differ in their virtues from those of anise.

Castor-oil.

This is obtained from the seeds of the plant called ricinus, or palma Christi. It is now come into frequent use as a quick but gentle purgative. The common dose of the oil is a table-spoonful, or half an ounce; but many persons require a double quantity.

Catechu.

This substance, commonly known by the name of terra Japonica, is an inspissated vegetable juice, prepared in the East Indies from the fruit, as is supposed, of a species of palm-tree. Catechu may be usefully employed for most purposes where an astringent is indicated, provided the most powerful be not required. But it is particularly useful in fluxes of the belly; and where these require the use of astringents, we are acquainted with no one equally beneficial. It is also employed in uterine discharges, in laxity and debility of the viscera in general, in catarrhal affections, and various other diseases where astringents are necessary. It is often suffered to dissolve leisurely in the mouth, as a topical astringent for laxities and exulcerations of the gums, for aphthous ulcers in the mouth, and similar affections.

Centaury.

Centaury is justly esteemed to be the most efficacious bitter of all the medicinal plants indigenous in this country. It has been recommended as a substitute for gentian, and, by several, thought to be a more useful medicine. Many authors have observed that, along with the tonic and stomachic qualities of a bitter, centaury frequently proves purgative; but it is probable that this seldom happens, unless it be taken in very large doses. The tops of centaury are commonly given in infusion, but they may also be taken in powder, or prepared into an extract.

Chamomile.

Both the leaves and flowers of this plant have a strong though not an ungrateful smell, and a very bitter nauseous taste; but the latter exceed in bitterness, and are considerably more aromatic. Chamomile flowers give out their virtues both to water and rectified spirit: when these have been dried, so as to be pulverable, the infusions prove more grateful than when they are fresh, or but moderately dried.

These flowers possess the tonic and stomachic qualities usually ascribed to simple bitters, having very little astringency, but a strong odour of the aromatic and penetrating kind; from which they are also judged to be carminative, emmenagogue, and, in some measure, antispasmodic and anodyne. They have been long successfully employed for the cure of intermittents; as well as of fevers of the irregular nervous kind, accompanied with visceral obstructions. That chamomile flowers may be effectually substituted for Peruvian bark in the cure of intermittent fevers, appears from the testimony of several respectable physicians, among whom is Dr. Cullen. He informs us that he has employed these flowers, and agreeable to the method of Hoffman, by giving, several times during the intermission, from half a drachm to a drachm of the flowers in powder; by which he has cured intermittent fevers. He has found, however, that the flowers were attended with this inconvenience, that, given in a large quantity, they readily run off by stool, defeating thereby the purpose of preventing the return of the paroxysms; and he has found, indeed, that, without joining with them an opiate, or an astringent, he could not commonly employ them.

These flowers have been found useful in hysterical affections, flatulent or spasmodic colics, and dysentery; but, from their laxative quality, Dr. Cullen tells us, that he has found them hurtful in diarrhœas. A simple watery infusion of them is frequently taken, in a tepid state, for the purpose of exciting vomiting, or for promoting the operation of emetics. Externally the flowers are used in discutient fomentations.

Cinnamon.

The true cinnamon-tree is a native of Ceylon, where it grows common in the woods and hedges, and is used by the Ceylonese for fuel and other domestic purposes. The spice so well known to us by the name of cinnamon, is the inner bark of the tree. It is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with considerable sweetness, and some degree of astringency. Its aromatic qualities are extracted by water in infusion, but more powerfully by it in distillation, and in both ways also by a proof spirit applied. Cinnamon is a very elegant and useful aromatic, more grateful both to the palate and stomach than most other substances of this class: by its astringent quality it likewise strengthens the viscera, and proves of great service in several kinds of alvine fluxes, as well as immoderate discharges from the uterus. The essential oil of cinnamon, in doses of a drop or two diluted by means of sugar, mucilages, &c. is one of the most immediate cordials and restoratives in languors and all debilities.

Coltsfoot.

This plant, otherwise called tussilago, has a rough mucilaginous taste, but no remarkable smell. The leaves have always been of great fame, as possessing demulcent and pectoral virtues; whence it is esteemed useful in pulmonary consumptions, coughs, asthmas, and in various catarrhal symptoms. Fuller recommends coltsfoot as a valuable medicine in scrophula; and Dr. Cullen, who does not allow it any powers as a demulcent and expectorant, found it serviceable in some strumous affections. It may be used as tea, or given in the way of infusion, to which liquorice or honey may be a useful addition.

Columbo-root.

This is a root brought from Columbo, a town in the island of Ceylon, whence it takes its name; but we know not as yet to what species of plant it belongs. The smell of the root is weakly aromatic, not disagreeable; the taste bitter and somewhat acrid; when chewed, it almost dissolves in the mouth. By keeping, it is very apt to be worm-eaten, and its bitterishness diminished.

The columbo-root has long been a medicine of great repute among the natives of Ceylon, in disorders of the stomach and bowels; and by the experiments of Dr. Percival and others, it is found to be of great efficacy in various diseases depending on the state of the bile; such as the bilious colic, bilious fevers, habitual vomitings, dysentery, &c. It has besides been employed with great advantage in weakness of digestion. Water is not so complete a menstruum as spirits, but to their united action it yields a flavoured extract in very considerable quantity. The dose of the powder usually given is from one scruple to two.

Contrayerva.

The root of this plant has a peculiar kind of aromatic smell, with a light astringent warm bitterish taste, and on being long chewed it discovers somewhat of a sweetish sharpness. The antipoisonous virtues formerly ascribed to this root have been long very justly exploded as entirely chimerical, so that it is now employed merely as a diaphoretic of a moderately stimulating kind, being possessed of less pungency than any other of those medicines usually denominated alexipharmic. Putrid and nervous fevers are the diseases in which contrayerva is chiefly used.

Cowhage.

This plant, otherwise called cow-itch, is a native of the East and West-Indies. It bears pods thickly covered with sharp hairs, which penetrate the skin, and occasion a most troublesome itching. It is esteemed an efficacious remedy against worms. The manner in which it is employed is, to mix the hairy matter scraped off from the pods, with syrup or melasses, into a thin electuary; of which a tea-spoonful is given to a child two or three years old, and double the quantity to an adult. The dose is administered in the morning, fasting, for three successive days, after which a dose of rhubarb is given. Its effects are represented as remarkably powerful and certain, without the least dangerous consequence.—The manner in which these hairy spiculæ act as a vermifuge seems to be purely mechanical; for neither the tincture nor the decoction is endowed with any quality destructive of worms.

Dandelion.

This herb is so very common, that a plot of ground can scarcely be seen where it does not present its yellow flowers. The expressed juice is bitter and somewhat acrid, but not equal in bitterness to the root, which possesses a greater medicinal power than any other part of the plant. It is much commended in obstructions of the viscera, particularly of the liver. The leaves, roots, flower-stalks, and juice of dandelion have all been separately employed for medicinal purposes, and seem to differ rather in degree of strength than in any essential property. The expressed juice, therefore, or a strong decoction of the roots, have most commonly been prescribed, from one ounce to four, two or three times a-day. The plant should be always used fresh: even extracts prepared from it appear to lose much of their power by keeping.

Elecampane.

This plant is seldom to be met with in a wild state, but it is commonly cultivated in gardens, whence the shops are supplied with the root, which is the part directed for medicinal use. This root, in its recent state, has a weaker and less grateful smell than when thoroughly dried and kept for a length of time, by which it is greatly improved. Its taste, on first being chewed, is glutinous and somewhat rancid, quickly succeeded by an aromatic bitterness and pungency. An extract made with water possesses the bitterness and pungency of the root, but in a less degree than that made with spirit.

The ancients entertained a high opinion of elecampane, which is recommended for promoting expectoration in humoural asthmas and coughs: liberally taken, it is said to excite urine, and loosen the belly. In some parts of Germany, large quantities of this root are candied, and used as a stomachic, for strengthening the tone of the viscera in general, and for attenuating viscid humours.

Elm.

This tree is frequent in various parts of Great Britain. The inner tough bark, which is directed for use by the dispensatories, has no remarkable smell, but has a bitterish taste, and abounds with a slimy juice, recommended in nephritic cases, and externally as a useful application to burns. The external bark is brittle, contains but little mucilage, and is wholly destitute both of smell and taste. The internal bark of the branches is more bitter than that of the trunk, and therefore more efficacious.

The complaints for which the elm-bark is chiefly recommended are those of the cutaneous kind allied to herpes and lepra. Dr. Lysons mentions five cases of inveterate eruptions, both dry and humid, or those forming incrustations, which were successfully treated by a decoction of this bark, prepared from four ounces of it taken fresh, and boiled in two quarts of water to one: of this the patients were usually directed to drink half a pint twice a-day.

But as he added nitre to the decoction, and also frequently had recourse to purgatives, it may be doubted whether these cures ought to be wholly ascribed to the elm-bark. Other authorities, however, confirm its utility in cutaneous diseases. In very obstinate cases it is necessary to persevere in the use of the decoction for some months.

Fern, Male.

This is a native of Great Britain, and grows about the borders of woods near rivulets, and in stony rocky places. The root of it has lately been greatly celebrated for its effects upon the tape-worm, or tænia lata of Linnæus; and this vermifuge power of fern-root seems to have been known to the ancients, after whom it has been recommended by several practical writers. The use of it, however, was very generally neglected till some years ago. Madame Nonfer, a surgeon's widow in Switzerland, acquired great celebrity by employing a secret remedy as a specific in the cure of the tapeworm. This secret was thought of such importance by some of the principal physicians in Paris, who were deputed to make a complete trial of its efficacy, that it was purchased by the French king, and afterwards published by his order. The method of cure has been stated as follows: After the patient has been prepared by an emollient clyster, and a supper of panada, with butter and salt, he is directed to take in the morning, while in bed, a dose of two or three drachms of the powdered root of male fern (the dose for infants is one drachm). The powder must be washed down with a draught of water, and two hours after a strong purge, composed of calomel and scammony, is to be given, proportioned to the strength of the patient. If this should not operate in due time, it is to be followed by a dose of purging salts; and if the worm be not expelled in a few hours, this process is to be repeated at proper intervals. Of the success of this, or a similar mode of treatment, in cases of tænia, there can be no doubt, as many proofs of it in this country afford sufficient testimony; but whether the fern-root or the strong cathartic be the principal agent in the destruction of the worm, may admit of a question; and the latter opinion, we believe, is the more generally adopted by physicians. It appears, however, from some experiments made in Germany, that the tænia has in several instances been expelled by the repeated exhibition of the root, without the assistance of any purgative.

Fox-Glove.

This plant is known in botany by the name of digitalis purpurea. Its leaves have a bitter nauseous taste, but no remarkable smell: they have been long used externally to sores and scrophulous tumors with considerable advantage. Respecting the internal use of this plant, we are told of its good effects in epilepsy, scrophula, and phthisis; but the incautious manner in which it was employed rendered it a dangerous remedy. Yet while digitalis was generally known to possess such medicinal activity, its diuretic effects, for which it is now deservedly esteemed, were wholly overlooked. It has at length been discovered to be an excellent remedy in dropsical disorders; but the management of it with success, or even with safety, requires a degree of skill and observation, which can only be expected in those who are conversant in the practice of physic.

Fumitory.

The leaves of fumitory, which are the part of the plant directed for medicinal use by the Edinburgh college, are extremely succulent, and have no remarkable smell, but a bitter and somewhat saline taste. Fumitory has been supposed by several physicians of great authority, both ancient and modern, to be very efficacious in opening obstructions and infarctions of the viscera, particularly those of the hepatic system. It is also highly commended for its power of correcting a scorbutic and acrimonious state of the fluids; and has therefore been employed in different cutaneous diseases. When taken in pretty large doses, it proves diuretic and laxative, especially the juice, which may be mixed with whey, and used as a common drink. Dr. Cullen classes this plant among the tonics. He says, "I have found it useful in many cases in which bitters are prescribed; but its remarkable virtues are those of clearing the skin of many disorders. For this it has been much commended; and I have myself experienced its good effects in many instances of cutaneous affections, which I would call lepra. I have commonly used it by expressing the juice, and giving that to two ounces twice a day: but I find the virtues remain in the dried plant, so that they may be extracted by infusion or decoction in water; and the foreign dispensatories have prepared an extract of it, to which they ascribe all the virtues of the fresh plant."

Garlic.

These roots are of the bulbous kind, of an irregularly roundish shape, with several fibres at the bottom: each root is composed of a number of smaller bulbs, called cloves of garlic, inclosed in one common membranous coat, and easily separable from one another. All the parts of this plant, but particularly the roots, have a strong offensive smell, and an acrimonious, almost caustic taste. The root applied to the skin inflames, and often exulcerates the part. Its smell is extremely penetrating and diffusive. When the root is applied to the feet, its scent may soon be perceived in the breath; and when taken internally, its smell is communicated to the urine, or the matter of an issue, and perspires through the pores of the skin.

This root, from its pungency, warms and stimulates the solids, and attenuates tenacious juices. Hence, in cold phlegmatic habits, it proves a powerful expectorant, diuretic, and emmenagogue; and, if the patient be kept warm, a sudorific.

In humoural asthmas, and catarrhous disorders of the breast, in some scurvies, flatulent colics, hysterical and other diseases proceeding from laxity of the solids, and cold sluggish indisposition of the fluids, it has generally good effects; and has likewise been found serviceable in some hydropic cases.

Too free an use of garlic is apt to occasion head-achs, flatulencies, thirst, febrile heats, inflammatory distempers, and sometimes discharges of blood from the hæmorrhoidal vessels. In hot bilious constitutions, where there is already a degree of irritation, where the juices are too thin and acrimonious, or the viscera unsound, this stimulating medicine is obviously improper, and never fails to aggravate the distemper.

The most commodious form for the taking of garlic is that of a bolus or pill, infusions of it being so acrimonious as to render it unfit for general use.

Garlic made into an ointment with oils, &c. and applied externally, is said to resolve and discuss cold tumors, and has been by some greatly esteemed in cutaneous diseases.

Gentian.

This plant is a native of the Alps, and according to the Hortus Kewensis was first cultivated in Britain in the time of Gerard, towards the close of the sixteenth century. But the gentian with which our shops are supplied is imported from the mountainous parts of Switzerland, Germany, &c.

The root, which is the only medicinal part of the plant, has little or no smell, but to the taste it manifests great bitterness—a quality which is extracted by aqueous, spirituous, and vinous menstrua, though not in so great a degree by water as by spirit; and the extract of this root, prepared from the watery infusion, is less bitter than that made from the spirituous tincture.

Gentian is the principal bitter now employed by physicians; and as the intense bitters are generally admitted to be not only tonic and stomachic, but also anthelmintic, antiseptic, emmenagogue, anti-arthritic, and febrifuge, this root has a better claim to the possession of these powers than most of this kind.

Many dyspeptic complaints, though arising from debility of the stomach, are more effectually relieved by bitters than by Peruvian bark; and hence may be inferred their superior tonic power on the organs of digestion. And the gentian joined with equal parts of tormentil or galls, we are told by Dr. Cullen, constantly succeeded in curing intermittents, if given in sufficient quantity.

As a simple bitter, the gentian is rendered more grateful to the stomach by the addition of an aromatic; and for this purpose orange peel is commonly employed.

Ginger.

The ginger plant is a native of the East Indies, and is said to grow in the greatest perfection on the coast of Malabar and Bengal; but it is now plentifully cultivated in the warmer parts of America, and in the West India islands, whence chiefly it is imported into Europe. In 1731 it was first introduced into this country by Mr. P. Miller, and is still cultivated in the dry stoves of the curious. The flowers have a sweet fragrant smell, and the leaves and stalks, especially when bruised, also emit a faint spicy odour; but the hot acrid aromatic taste is entirely confined to the root.

Ginger gives out its virtues perfectly to rectified spirit, and in a great measure to *water*. According to Lewis, its active principles are of a remarkably fixed nature: for, a watery infusion of this root being boiled down to a thick consistence, dissolved afresh in a large quantity of water, and strongly boiled down again, the heat and pungency of the root still remained, though with little or nothing of its smell. Ginger is generally considered as an aromatic, less pungent and heating to the system than might be expected from its effects upon the organs of taste. Dr. Cullen thinks, however, that there is no real foundation for this remark. It is used as an antispasmodic and carminative. The cases in which it is more immediately serviceable are flatulent colics, debility and laxity of the stomach and intestines, and in torpid and phlegmatic constitutions to excite brisker vascular action. It is seldom given but in combination with other medicines.

Ground-Ivy.

This plant has a peculiar strong smell, and its taste is bitterish, and somewhat aromatic. It was formerly in considerable estimation, and supposed to possess great medicinal powers, but which later experience has been unable to discover. The qualities of this plant have been described by different authors, as pectoral, detergent, aperient, diuretic, vulnerary, corroborant, errhine, &c. and it has been variously recommended for the cure of those diseases to which these powers seemed most adapted, but chiefly in pulmonary and nephritic complaints. In obstinate coughs it is a favourite remedy with the common people, who probably experience its good effects by still persevering in its use. Ray, Mead, and some others, speak of its being usefully joined with fermenting ale; but Dr. Cullen observes, " It appears to me frivolous. In short, in many cases where I have seen it employed, I have had no evidence either of its diuretic or of its pectoral effects. In common with many other of the verticillatæ, it may be employed as an errhine, and in that way cure a head-ach, but no otherwise by any specific quality." It is usually taken in the way of infusion, or drunk as tea.

Guaiacum.

This tree is a native of the West India islands, and the warmer parts of America. The wood, gum, bark, fruit, and even the flowers of this tree have been found to possess medicinal qualities. The general virtues of this plant are those of a warm stimulating medicine. It strengthens the stomach and other viscera, and remarkably promotes the cuticular and urinary discharges. Hence, in cutaneous disorders, and others proceeding from obstructions of the excretory glands, and where sluggish serous humours abound, it is eminently useful. In rheumatic and other pains it is administered with success; but in thin emaciated habits, and an acrimonious state of the fluids, it often does harm. Conjoined with mercury and soap, and in some cases with bark or steel, it has been found remarkably useful as an alterative. The gum-resin of guaiac is generally given from six grains to twenty at a dose; but the latter will be apt to purge briskly. It may either be administered by itself, or in a fluid form, by means of mucilage, or the yolk of egg.

Hellebore, black.

This plant is a native of Austria and Italy, and was unknown to the gardens in this country till cultivated by Gerard in 1596. If the weather be sufficiently mild, it flowers in January, and hence has obtained the name of Christmas flower.

The taste of the fresh root is bitterish, and somewhat acrid. It also emits a nauseous acrid smell; but being long kept, both its sensible qualities and medicinal activity suffer very considerable diminution.

Its seems to have been principally from its purgative quality that the ancients esteemed this root such a powerful remedy in maniacal disorders, with a view to evacuate the *atra bilis,* from which these mental diseases were supposed to be produced: but though evacuations be often found necessary in various cases of alienations of mind, yet, as they can be procured with more certainty and safety by other medicines, this catholicon of antiquity is now almost entirely abandoned. Modern practice regards it chiefly as an alterative; in which light it is frequently employed in small doses for attenuating viscid humours, promoting the uterine and urinary discharges, and opening inveterate obstructions of the remoter glands. It often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual, or improper. It is also recommended in dropsies, and some cutaneous diseases. The watery extract of this root, made after the manner directed in the dispensatories, is one of the best and safest preparations of it, when designed for a cathartic, as it contains both the purgative and diuretic parts of the hellebore: it may be given in a dose from ten grains to a scruple, or more. A tincture of this drug is also ordered in the dispensatories, which is preferred for the purposes of an alterative and deobstruent. Of this a tea-spoonful, twice a-day, may be considered a common dose.

Hemlock.

This plant is commonly found about the sides of fields, under hedges, and in moist shady places, and flowers in June and July. It has a peculiar fœtid smell, and a slightly aromatic, herbaceous, and somewhat nauseous taste.

With regard to its virtue when taken internally, it has been generally accounted poisonous; which it doubtless is, in a high degree, when used in any considerable quantity. The symptoms produced by hemlock, when taken in immoderate doses, are related by various authors, the principal of which have been collected by Haller and others, and stated in the following terms: "Internally taken, it occasions anxiety, heartburn, vomiting, prostration of appetite, convulsions, blindness, vertigo, madness, and death itself."

Baron Stoerck was the first physician who brought hemlock into repute as a medicine of extraordinary efficacy. He found that in certain small doses it may be taken with great safety; and that, without in the least disordering the constitution, or even producing any sensible operation, it sometimes proves a powerful resolvent in many obstinate disorders. Though we have not in this country any direct facts, like those mentioned by Stoerck, proving that inveterate scirrhuses, cancers, ulcers, and many other diseases hitherto deemed irremediable, were completely cured by the cicuta; we have, however, the testimonies of several eminent physicians, showing that some complaints, which had resisted other powerful medicines, yielded to hemlock; and that even some disorders, which, if not really cancerous, were at least suspected to be of that tendency, were greatly benefited by this remedy. In glandular swellings, chronic rheumatisms, in various fixed and periodical pains, the cicuta is now very generally employed, and from daily experience it appears in such cases to be a very efficacious remedy. It has also been found of great advantage in the hooping-cough. Externally the leaves of hemlock have been applied with good effect to ulcers, indurated tumors, and gangrenes.

Honey.

This is entirely a vegetable juice: for, though deposited by the bees, which extract and carry it into their cells, it never enters their body, nor receives any tincture from their fluids. Honey is obtained from the honey-comb, either by separating the combs, and laying them flat upon a sieve, through which it spontaneously percolates; or by including the comb in canvas bags, and forcing out its contents by a press. The former sort is the purer; the latter containing a good deal of wax, and other impurities. There is another sort still inferior to the two foregoing, obtained by heating the combs before they are put into the press. The best kind of honey is thick, of a whitish colour, an agreeable smell, and a very pleasant taste. Both the colour and flavour differ according to the plants from which the bees collect it; the sweet herbs, such as rosemary, marjoram, and thyme, affording the most delicate juices.

Honey, considered as a medicine, is a very useful detergent and aperient, powerfully dissolving viscid juices, and promoting the expectoration of tough phlegm. Hence it has proved of great benefit to persons afflicted with asthmatic complaints; but for this purpose it must be taken in considerable quantity, as an article of diet. In some constitutions it disagrees with the bowels, and is apt to occasion griping or purging; but this inconvenience, it is said, is in some measure obviated by previously boiling the honey.

Horehound.

The leaves of horehound have a moderately strong smell, of the aromatic kind, but not agreeable, which by drying is improved, and by keeping for some months is in great measure dissipated. Their taste is very bitter, penetrating, diffusive, and durable in the mouth. This plant was greatly extolled by the ancients for its efficacy in removing obstructions of the lungs and other viscera. It has chiefly been employed in humoural asthmas, obstinate coughs, and pulmonary consumptions. Instances are also mentioned of its successful use in scirrhous affections of the liver, jaundice, cachexies, and menstrual suppressions.

That horehound possesses some share of medicinal power may be inferred from its sensible qualities, but its virtues do not appear to be clearly ascertained; and the character it had formerly acquired is so far depreciated, that it is rarely prescribed by physicians. A drachm of the dry leaves in powder, or two or three ounces of the expressed juice, or an infusion of half a handful of the fresh leaves, have been directed for a dose. This last mode is usually practised by the common people, with whom it is still a favourite remedy in coughs and asthmas.

Horse-Chesnut.

The fruit of this tree is eaten by sheep, goats, deer, oxen, and horses. It contains much farinaceous matter, which, by undergoing a proper process, so as to divest it of its bitterness and acrimony, probably might afford a kind of bread. Starch has been made of it, and found to be very good. It appears also to be endowed with a saponaceous quality, as it is used, particularly in France and Switzerland, for the purpose of cleaning woollens, and in washing and bleaching linens.

With a view to its errhine power, the Edinburgh college has introduced it into the Materia Medica. As a small portion of the powder, snuffed up the nostrils, readily excites sneezing; even the infusion or decoction of the fruit produces this effect; it has therefore been recommended for the purpose of producing a discharge from the nose, which, in some complaints of the head and eyes, is found to be of considerable benefit.

On the continent the bark of the horse-chesnut tree is held in great estimation as a febrifuge, and, upon the credit of several respectable authors, appears to be a medicine of great efficacy; and that it may be substituted for the Peruvian bark in every case in which the latter is indicated, with equal, if not superior, advantage.

Horse-Radish.

The root of this plant, which has long been received into the Materia Medica, is also well known at our tables. It affects the organs both of taste and smell with a quick penetrating pungency: but contains, nevertheless, in certain vessels, a sweet juice, which sometimes exudes in little drops upon the surface. Its pungent matter is of a very volatile kind, being totally dissipated in drying, and carried off in evaporation or distillation by water and rectified spirit. As the pungency exhales, the sweet matter of the root becomes more sensible, though this also is in a great measure dissipated or destroyed. It impregnates both water and spirit, by infusion or by distillation, very richly with its active matter. In distillation with water, it yields a small quantity of essential oil, exceedingly penetrating and pungent.

With respect to the medical virtues of horse-radish, we shall insert the opinion of Dr. Cullen. " The root of this only is employed, and it affords one of the most acrid substances of this order (siliquosa), and therefore proves a powerful stimulant, whether externally or internally employed Externally, it readily inflames the skin, and proves a rubifacient that may be employed with advantage in palsy and rheumatism; and if its application be long continued, it produces blisters. Taken internally, I have said in what manner its stimulant power in the fauces may be managed for the cure of hoarseness*. Received into the stomach, it stimulates this, and promotes digestion; on which account it is properly employed as a condiment with our animal food. If it be infused in water, and a

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[*] The doctor here refers to the article Erysimum, the juice of which, mixed with an equal part of honey or sugar, is strongly recommended for the cure of hoarseness which proceeds from an interrupted secretion of mucus, and which stimulants of the acrid kind are found most efficacious in restoring. When the erysimum was not at hand, the doctor substituted a syrup of horse-radish. He says, " I have found that one drachm of the root, fresh, scraped down, was enough for four ounces of water, to be infused in a close vessel for two hours, and made into a syrup, with double its weight of sugar. A tea-spoonful or two of this syrup swallowed leisurely, or at least repeated two or three times, we have found often very suddenly effectual in relieving hoarseness." Mat. Med. vol. ii. p. 167.

portion of this infusion be taken with a large draught of warm water, it readily proves emetic, and may either be employed by itself to excite vomiting, or to assist the operation of other emetics. Infused in water, and taken into the stomach, it proves stimulant to the nervous system, and is thereby useful in palsy; and if employed in large quantity it proves heating to the whole body: and hereby it proves often useful in chronic rheumatism, whether arising from scurvy or other causes. Bergius has given us a particular method of exhibiting this root, which is by cutting it down, without bruising, into very small pieces; and these, if swallowed without chewing, may be taken down in large quantity, to that of a table-spoonful: and the author alleges, that, in this way, taken every morning for a month together, this root has been extremely useful in arthritic cases; which, however, I suppose to have been of the rheumatic kind. It would seem that in this manner employed, analogous to the use of unbruised mustard-seed, it gives out in the stomach its subtile volatile parts, that stimulate considerably without inflaming. The matter of horse-radish, like the same matter of the other siliquose plants, carried into the blood-vessels, passes readily into the kidneys, and proves a powerful diuretic, and is therefore useful in dropsy; and we need not say, that in this manner, by promoting both urine and perspiration, it has been long known as one of the most powerful antiscorbutics.

Hyssop.

This plant, supposed to be different from the hyssop mentioned in the Old Testament, is a native of Siberia, and the mountainous parts of Austria, and flowers from June till September. The leaves have an aromatic smell, and a bitterish, moderately warm taste. They give out their active matter both to water and to rectified spirit; but to the latter most perfectly. Dr. Cullen classes this and all the verticillated plants as stimulants; and this quality is to be ascribed to the quantity of essential oil which they contain. The hyssop, therefore, may be esteemed aromatic and stimulant; and, with a view to these effects, Bergius recommends it as an emmenagogue and anti-hysteric: but it is chiefly employed as a pectoral, and has been long thought an useful medicine in humoural asthmas, coughs, and catarrhal affections. For this purpose an infusion of the leaves, sweetened with honey or sugar, and drunk as tea, is recommended by Lewis. The external application of hyssop is said to be particularly efficacious in the way of fomentation and poultice, in contusions, and for removing the blackness occasioned by the extravasated fluids.

Jalap.

This is the root of an American convolvulus, brought to us in thin transverse slices from Xelapa, a province of New Spain. It has scarcely any smell, and very little taste; but, to the tongue and to the throat, manifests a slight degree of pungency. The medicinal activity of jalap resides principally, if not wholly, in the resin, which, though given in small doses, occasions violent griping. The gummy part bears an inconsiderable proportion to the resinous, and is found to have little or no cathartic power; but, as a diuretic, it is extremely active.

That jalap is an efficacious and safe purgative, daily experience must evince; but, according as the root contains more or less resin, its effects must of course vary. Hoffman thought it particularly improper and unsafe to administer this medicine to children; but Dr. Cullen observes, that if jalap "be well triturated, before exhibition, with a hard powder, and the crystals of tartar are the fittest for the purpose, it will operate in lesser doses than when taken by itself, and, at the same time, very moderately, and without griping. Except when given in very large doses, I have not found it to be heating to the system; and if it be triturated with hard sugar, it becomes, in moderate doses, a safe medicine for children; which in this form they will readily receive, as the jalap itself has very little taste."

Jalap, in large doses, or when joined with calomel, is recommended as an anthelmintic and a hydragogue. The dose of the simple powder is commonly from one scruple to two.

Ipecacuanha.

This root is divided into two sorts, Peruvian and Brazilian: but the eye distinguishes three kinds, viz. the ash-coloured or grey, brown, and white: of which the ash-coloured is that usually preferred in the shops. It was first introduced into this country with the character of an almost infallible remedy in dysenteries and other inveterate fluxes, and also in disorders proceeding from obstructions of long standing: nor has it lost much of its reputation by time.

The use of ipecacuanha in fluxes is thought to depend upon its restoring perspiration; for in these cases, especially in dysentery and diarrhœa, the skin is dry and tense; and while the common diaphoretics usually pass off by stool, small doses of this root have been administered with the best effects, proving both laxative and diaphoretic. In the spasmodic asthma, Dr. Akenside remarks, that where nothing contraindicates repeated vomiting, he knows no medicine so effectual as ipecacuan. In violent paroxysms a scruple procures immediate relief. Where the complaint is habitual, from three to five grains every morning, or from five to ten every other morning, may be given for a month or six weeks.

This medicine has also been successfully used in hæmorrhages. Several cases of uterine discharges are mentioned by Dahlberg, in which one third or half a grain was given every four hours till it effected a cure. These small doses are likewise found of great use in catarrhal and even consumptive cases, as well as in various states of fever. Ipecacuanha, particularly in the state of powder, is now advantageously employed in almost every disease in which vomiting is indicated; and when combined with opium, under the form of sudorific powder, it furnishes us with the most useful and active sweating medicine which we possess. It is also given with advantage in very small doses, even when it produces no sensible operation. The full dose of ipecacuanha in substance is a scruple, though less doses will frequently produce an equal effect.

Juniper.

Both the tops and berries of this plant are directed for medicinal use, but the latter are usually preferred, and are brought to us chiefly from Holland and Italy. They have a moderately strong, not disagreeable, smell, and a warm, pungent, sweetish taste, which, if they are long chewed, or previously well bruised, is followed by a considerable bitterness. The sweetness appears to reside in the juice or soft pulpy part of the berry; the bitterness, in the seeds; and the aromatic flavour, in oily vesicles, spread throughout the substance both of the pulp and the seeds; and distinguishable even by the eye. The fresh berries yield, on expression, a rich, sweet, honey-like, aromatic juice: if previously powdered, so as to thoroughly break the seeds, which is not done without great difficulty, the juice proves tart and bitter. The same differences are observable also in tinctures and infusions made from the dry berries, according as the berry is taken entire or thoroughly bruised. They give out nearly all their virtue both to water and rectified spirit.

These berries are chiefly used for their diuretic effects: they are also considered as stomachic, carminative, and diaphoretic.—Of the efficacy of juniper berries in many hydropical affections, we have various relations by physicians of great authority. These, however, seem not to be perfectly agreed which preparation of the juniper is most efficacious. But, as it is now seldom, if ever, relied upon for the cure of dropsies, and only called to the aid of more powerful remedies, perhaps one of the best forms under which the berries can be used is that of a simple infusion. This, either by itself, or with the addition of a little gin, is a very useful drink for hydropic patients. The juniper has also been recommended in nephritic cases, uterine obstructions, scorbutic affections, and some cutaneous diseases; and in the two last mentioned complaints the wood and tops of the plant are said to have been employed with more advantage than the berries.

Kino.

This is a red astringent gum from Gambia, supposed to exude from incisions made in the trunks of certain trees called *pau de sangue*, growing in the interior parts of Africa. It is very friable, so as to be crumbled in pieces by the hands; of an opake, dark-reddish colour, inclining to black; when reduced to powder, of a deep brick-red. It has a resemblance to catechu, but is more red and astringent.

This gum has been found useful in some uterine hæmorrhages, particularly after child-bearing. One part of kino united with three parts of alum, Dr. Cullen says, has proved one of the most powerful astringents with which he was ever acquainted. This composition may be given from five to fifteen grains or more, every four hours, in uterine and pulmonary hæmorrhage. Forty grains of gum-arabic added to one drachm of kino, and a proper quantity of syrup of white poppy, forms an agreeable astringent linctus or lambative; of which a tea-spoonful may be taken occasionally.

Lavender.

The fragrant smell of the flowers of this plant is well known, and to most people agreeable: to the taste they are bitterish, warm, and somewhat pungent; the leaves are weaker and less grateful. Lavender has been an officinal plant for a considerable time. Its medicinal virtue resides in the essential oil, which is supposed to be a gentle corroborant and stimulant of the aromatic kind, and is recommended in nervous debilities, and various affections proceeding from a want of energy in the animal functions.

Liquorice.

This is a native of the south of Europe, but has been long cultivated in Britain, particularly at Pontefract in Yorkshire, Worksop in Nottinghamshire, and Godalming in Surry. But it is now planted by many gardeners in the vicinity of London, by whom the metropolis is supplied with the roots, which, after three years growth, are dug up for use, and are found to be in no respect inferior for medical purposes to those produced in their native climate.

Liquorice root, lightly boiled in a little water, gives out nearly all its sweetness: the decoction, pressed through a strainer, and inspissated with a gentle heat, till it will no longer stick to the fingers, affords a better extract than that brought from abroad, and its quantity amounts to near half the weight of the root.

This root contains a great quantity of saccharine matter, joined with some proportion of mucilage; and hence has a viscid, sweet taste. From the time of Theophrastus it has been a received opinion that it very powerfully extinguishes thirst; which, if true, is more remarkable, as sweet substances in general have a contrary effect. It is in common use as a pectoral or emollient in catarrhal defluxions on the breast, coughs, hoarsenesses, &c. Infusions or extracts made from it afford likewise very commodious vehicles for the exhibition of other medicines; the liquorice-taste concealing that of unpalatable drugs more effectually than syrups, or any other substance of the saccharine kind.

Maidenhair.

The leaves of this plant have a mucilaginous, sweetish, sub-astringent taste, without any particular flavour. They are esteemed useful in disorders of the breast, proceeding from a thickness and acrimony of the juices; and are likewise supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera. They are usually directed in infusion or decoction, with the addition of a little liquorice. A syrup prepared from them, though it has now no place in our dispensatories, is frequently to be met with in the shops, both as prepared at home and imported from abroad. A little of these syrups mixed with water makes a very pleasant draught. The syrup brought from abroad has an admixture of orange flower-water.

Manna.

This is the juice of certain trees of the ash-kind growing in Italy and Sicily, either naturally concreted on the plants, or exsiccated and purified by art. From incisions made in the trees, the manna sometimes flows in such abundance, that it runs upon the ground, by which it becomes mixed with various impurities, unless carefully prevented by those who are employed in obtaining it.

Manna is well known as a gentle purgative, so mild in its operation, that it may be given with safety to children and pregnant women. In some constitutions, however, it produces troublesome flatulencies, and therefore requires the addition of a suitable aromatic, especially when given to an adult, where a large dose is necessary: it is therefore usually assisted by some other purgative of a more powerful kind.

Marjoram, Wild.

This plant grows in many parts of Britain, especially on dry chalky hills, or gravelly soils, and produces its flowers in July and August. It has an agreeable aromatic smell, approaching to that of sweet marjoram, and a pungent taste, much resembling thyme, to which it is likewise thought to be more nearly allied in its medicinal qualities than to any of the other verticillatæ, and therefore deemed to be emmenagogue, tonic, stomachic, &c. The dried leaves, used instead of tea, are said to be exceedingly grateful. They are also employed in medicated baths and fomentations.

Marjoram, Sweet.

This plant is thought to be the amaracus of the ancients, mentioned by Virgil and Catullus. It has long been cultivated in our gardens, and in frequent use for culinary purposes. The leaves and tops have a pleasant smell, and a moderately warm, aromatic, bitterish taste. The medicinal qualities of this agree with those of wild marjoram; but, being much more fragrant, it is deemed to be better adapted to those complaints known by the name of nervous; and may be therefore employed with the same intentions as lavender. In its recent state, we are told that it has been successfully applied to scirrhous tumors of the breast.

Marsh-Mallow.

This plant, under the name of althæa, has long been in general use among practitioners in every country where the science of medicine is cultivated. The virtues of it consist in a mucilaginous matter, with which it abounds, and which renders it emollient and demulcent. It therefore proves serviceable in a thin acrimonious state of the juices, and where the natural mucus of the membranes is abraded. It is chiefly recommended in sharp defluxions upon the lungs, hoarsenesses, dysenteries, and likewise in nephritic and calculous complaints. It is used in decoction or infusion.

Mezereon.

This plant is extremely acrid, especially when fresh, and, if retained in the mouth, excites great and long continued heat and inflammation, particularly of the throat and fauces. The berries also have the same effects, and, when swallowed, prove a powerful corrosive poison, not only to man, but to dogs, wolves, foxes, &c. The bark and berries of mezereon, in different forms, have been long externally used to obstinate ulcers and ill-conditioned sores. In France the former is strongly recommended as an application to the skin, which, under certain management, produces a continued serous discharge, without blistering; and is thus rendered useful in many chronic diseases of a local nature, answering the purpose of what has been called a perpetual blister, while it occasions less pain and inconvenience.

The bark of the root is the part chiefly in use, two drachms of which, with half an ounce of bruised liquorice, are boiled in three pints of water till reduced to two: of this from four to eight ounces are taken four times a day. This has been found very efficacious for resolving venereal nodes, and curing other remains of the venereal disease, which mercury, taken in large quantities, had failed to effect. Dr. Cullen found a case of ulcerations in many different parts of the body, for which mercury had likewise been taken without success, entirely cured by the use of mezereon decoction for two or three weeks.

Mugwort.

This plant grows plentifully in fields, hedges, and waste places, and flowers in June. The leaves have a light aromatic smell, and an herbaceous bitterish taste. They are principally celebrated as uterine and anti-hysteric. An infusion of them is sometimes drunk, either alone or in conjunction with other substances, in suppression of the menstrual evacuations. In some parts of the kingdom, mugwort is in common use as a pot-herb.

Musk.

This is a grumous substance like clotted blood, found in a little bag situated near the umbilical region of a particular kind of animal met with in China, Tartary, and the East Indies. Musk has a bitterish sub-acrid taste, a fragrant smell, agreeable at a distance, but, when smelt near, so strong as to be disagreeable, unless weakened by the admixture of other substances. It is a medicine of great esteem in the eastern countries; but among us it has been for some time very little used, even as a perfume, on a supposition of its occasioning vapours, &c. in weak females, and persons of a sedentary life. It appears, however, from late experience, to be, when properly managed, a remedy of great service, even against those disorders which it has been supposed to produce. In convulsive and other diseases it has been found to produce extraordinary good effects; and Dr. Cullen considers it as the most powerful antispasmodic with which we are acquainted. It is most effectual when given in substance, and must be administered in large doses, from ten to thirty grains. Even when these large doses are found to be effectual, they must be repeated at short intervals till the disease is entirely subdued. Dr. Cullen once procured immediate relief to a patient labouring under severe head-ach and delirium from the gout, by administering fifteen grains of genuine musk at a dose. He also relieved a gentleman afflicted with a spasm of the pharynx, preventing deglutition, and almost respiration, by musk, when other remedies had failed; and as the disease continued to recur, at times, for some years after, it was only obviated or relieved by the use of musk. It has given relief in several circumstances of the gout, when retrocedent, affecting the stomach, lungs, and particularly the head, when administered in large doses, or at least by repeating them after short intervals. In fine, musk seems to be adapted to all cases of convulsive disorders for which opium is usually prescribed.

Mustard.

This plant is distinguished into two kinds, namely, the black or common, and the white. The seeds of the former are directed by the London college, and those of the latter by that of Edinburgh: but they manifest no remarkable difference to the taste, nor in their general effects, and therefore answer equally well for the uses of the table and for the purposes of medicine.

Mustard is considered to promote appetite, assist digestion, attenuate viscid juices, and, by stimulating the fibres, to prove a general remedy in paralytic and rheumatic affections. Besides its stimulant qualities, it frequently, if taken in considerable quantity, opens the body, and increases the urinary discharge, whence it has been found useful in dropsical complaints. It was alleged by Haller, that the use of mustard disposes the humours to putrescency; an opinion which he was probably led to entertain from a supposition that it contained volatile alkali: for it is well known that some of the pungent plants, when in a state of putrefaction, give out this alkali by distillation, and hence have been termed alkalescent plants. But the fermentation of these vegetable substances may be so directed as to be of the acescent kind, and the alkali obtained from them seems not to have existed in the vegetable in a separate state. The great pungency of these plants, therefore, is not to be ascribed to the volatile alkali, but to the essential oil which they contain.

Bergius informs us, that he found mustard of great efficacy in curing vernal intermittents; for which purpose he directed a spoonful of the whole seeds to be taken three or four times a day, during the intermission; and, when the disease was obstinate, he added flower of mustard to the bark. Externally these seeds are frequently used as a sinapism, or stimulating poultice. Mustard-seed may be most conveniently given entire or unbruised, and to the quantity of a table spoonful or half an ounce for a dose.

Nettle, Stinging.

The present practice pays very little regard to this plant; yet, if the testimony of many respectable authors is to be credited, it seems to merit more attention. The juice, taken from two to four ounces, is recommended in nephritic complaints, and internal hæmorrhages. The nettle is a common remedy among the people of Brunswick in an incipient consumption. When the juice is not to be obtained, the powder is used, mixed with honey or sugar. Externally it has been employed as a rubifacient; a method of cure which has been called *urtication*, and found efficacious in restoring excitement to paralytic limbs, or in other cases of torpor, or lethargy. Withering tells us, that a nettle leaf put upon the tongue, and then pressed against the roof of the mouth, is sometimes efficacious in stopping a bleeding at the nose.

Nightshade, Deadly.

This plant, otherwise named belladonna, or solanum lethale, has been for ages known as a strong poison of the narcotic kind; and the berries, though less powerful than the leaves, furnish us with many instances of their fatal effects, particularly upon children, who are readily tempted to eat this fruit by its alluring appearance and sweet taste. The number of these berries necessary to produce deleterious effects may probably depend upon the state of maturity in which they are eaten: if not more than three or four, according to Haller's account, no bad consequence ensues. But when a greater number of berries are taken into the stomach, scarcely half an hour elapses before violent symptoms supervene, viz. vertigo, delirium, great thirst, painful deglutition, and retching, followed by phrensy, grinding of the teeth, and convulsions, which usually precede death.

The leaves of the nightshade were first used externally to discuss scirrhous and cancerous tumors, and also as an application to ill-conditioned ulcers. Their good effects in this way at length induced physicians to employ them internally for the same disorders; and a considerable number of well-authenticated facts evince them to be a very serviceable and important remedy. At the same time it must be acknowledged, that many cases of this sort have occurred in which the belladonna has been employed without success. This, however, may be said of every medicine; and though Dr. Cullen repeatedly experienced its inefficacy, yet the facts he adduces in confirmation of this plant are clear and decisive. "I have," says he, "had a cancer of the lip entirely cured by it; a scirrhosity in a woman's breast, of such a kind as frequently proceeds to cancer, I have found entirely discussed by the use of it; a sore a little below the eye, which had put on a cancerous appearance, was much mended by the internal use of the belladonna: but the patient, having learned somewhat of the poisonous nature of the medicine, refused to continue the use of it; upon which the sore again spread, and was painful, but, upon a return to the use of the belladonna, was again mended to a considerable degree: when the same fears again returning, the use of it was again laid aside, and with the same consequence of the sore becoming worse. Of these alternate states, connected with the alternate use of, and abstinence from, the belladonna, there were several of these alternations which fell under my own observation."

The sensible effects produced by the leaves of this plant taken in medicinal doses are usually by the skin, the urinary passages, and sometimes by stool; in larger doses, troublesome dryness of the mouth and throat, giddiness, and dimness of sight are experienced.

That the advantages derived from the internal use of belladonna are only in proportion to the evacuations effected by it, is a conclusion which we cannot admit as sufficiently warranted by the facts adduced upon this point.

As this plant is very uncertain in its operation, the proper dose is with difficulty ascertained: the most prudent manner of administering it is by beginning with one grain or less, which may be gradually increased, according to its effects. Six grains are considered as a very large dose. The root seems to partake of the same qualities as the leaves, but is less virulent.

Nutmeg.

The seeds or kernels of this denomination are the produce of a tree which is a native of the East Indies, particularly the Molucca Islands, and have long been used both for culinary and medical purposes. The medicinal qualities of nutmeg are supposed to be aromatic, anodyne, stomachic, and restringent; and, with a view to the last mentioned effects, it has been much used in diarrhœas and dysenteries. To many people the aromatic flavour of nutmeg is very agreeable: they should beware, however, of using it in too large quantities, as it is apt to affect the head, and even to manifest a soporific power in such a degree as to prove extremely dangerous. Bontius speaks of this as a frequent occurrence in India; and Dr. Cullen relates a remarkable instance of such an effect of the nutmeg, which fell under his own observation; and hence concludes, that in apoplectic and paralytic cases this spice may be very improper.

Nitre.

Nitre, or saltpetre, is a salt extracted in Persia and the East Indies from certain earths that lie on the sides of hills; and artificially produced in some parts of Europe from animal and vegetable substances rotted together (with the addition of lime and ashes) and exposed for a length of time to the air, without the access of which nitre is never generated. The salt extracted from the earths by means of water is purified by colature and crystallization.

Nitre is a medicine of extraordinary use in many disorders. Besides the aperient quality of neutral salts in general, it has a manifestly cooling one, by which it quenches thirst, and abates febrile heats and commotions of the blood. It has one great advantage above the cooling medicines of the acid kind, that it does not coagulate the animal juices. Blood, which is coagulated by all the mineral acids, and milk, &c. by acids of every kind, are by nitre rendered more dilute, and preserved from coagulation. It nevertheless somewhat thickens thin, serous, acrimonious humours, and occasions an uniform mixture of them with such as are more thick and viscid; by which means it prevents the ill consequences which would otherwise ensue from the former.

This medicine for the most part promotes urine; sometimes gently loosens the belly; but, in cold phlegmatic habits, very rarely has this effect, though given in large doses. Alvine fluxes, proceeding from too great acrimony of the bile, or inflammation of the intestines, are suppressed by it: in choleric and febrile disorders it generally excites sweat: but in malignant cases, where the pulse is low, and the strength much reduced, it retards this salutary evacuation and the progress of eruptions.

It is given from five to thirty grains, with equal quantities of sugar or gum-arabic well powdered, and dissolved in barley-water or thin gruel. It is thus administered repeatedly as a cooling medicine, in acute fevers, and other inflammatory disorders; though it may be given with great safety, and generally to better advantage, in large quantities: the only inconvenience is its being apt to sit uneasy on the stomach.

Oak.

The astringent effects of the oak were sufficiently known to the ancients, by whom different parts of the tree were used; but it is the bark which is now generally directed for medicinal use. Oak-bark manifests to the taste a strong astringency, accompanied with a moderate bitterness; qualities which are extracted both by water and by rectified spirit. Its universal use and preference in the tanning of leather is a proof of its great astringency; and, like other astringents, it has been recommended in agues, and for restraining hæmorrhages, alvine fluxes, and other immoderate evacuations. A decoction of it has likewise been advantageously employed as a gargle, and a fomentation or lotion in the bearing down of the rectum and uterus.

To this valuable tree we are indebted for galls, which in the warm climates of the East are found upon its leaves. They are occasioned by a small insect, called cynips, with four wings, which deposits an egg in the substance of the leaf, by making a small perforation through the under surface. The gall presently begins to grow, and the egg in the centre of it changes to a worm; this worm again changes to a nymph, and the nymph to the flying insect above mentioned, which, by eating its passage out, leaves a round hole: and those galls which have no holes are found to have the dead insect remaining in them.

Galls appear to be the most powerful of the vegetable astringents; and, as a medicine, they are applicable to the same indications as the oak-bark. Reduced to a fine powder, and made into an ointment, they have been found of great service in hæmorrhoidal affections. Their efficacy in intermittent fevers was tried by Mr. Poupart, by order of the Academy of Sciences; and from his report it appears, that the galls had succeeded in many cases; and also that they had failed in many other cases, which were afterwards cured by the Peruvian bark.

Opium.

This juice is obtained from the poppy in Egypt, Persia, and some other provinces of Asia. The opium prepared about Thebes in Egypt, hence named Thebaic opium, has been usually esteemed the best; but this is not now distinguished from that collected in other places.

The general effects of this medicine are, to relax the solids, and render them less sensible of irritation; to cheer the spirits, ease pain, procure sleep, and to promote perspiration. When its operation is over, the pain and other symptoms which it had for a time abated, return, and generally with greater violence than before, unless the cause has been removed by the sweat or relaxation which it occasioned.

The operation of opium is generally attended with a slow but strong and full pulse, a dryness of the mouth, a redness and slight itching of the skin, and followed by a degree of nausea, a difficulty of respiration, lowness of the spirits, and a weak languid pulse.

The principal indications of opium are, great watchfulness, immoderate evacuations, proceeding from acrimony and irritation, cramps or spasmodic contractions of the nerves, and violent pains of almost every kind. In these cases, opiates procure at least a temporary relief, and an opportunity for other medicines, properly interposed, to take effect.

Opium sometimes frustrates the intention of the physician, and, instead of procuring rest, occasions great anxiety, vomiting, &c. Taken on a full stomach, it often proves emetic. Where the patient is exhausted by excessive evacuations, it occasions generally great lowness. It has been observed to operate more powerfully in persons of a lax habit than in the opposite circumstances. While it usefully restrains præternatural discharges, proceeding from irritation, it proves injurious in those that arise from a contrary cause, as in the colliquative diarrhœa attending the hectic fever.

In hæmorrhages excited by irritation, and unattended with inflammation, opium is useful. In the dysentery it may be occasionally employed to moderate the violence of the symptoms, though not considered as a remedy. In the latter stages of diarrhœa, when the acrimony producing the disease has been carried off in a great measure, opium is an efficacious remedy. In the cholera morbus, and water-brash, it is chiefly to be relied upon. Joined with laxatives it is employed in the colic. In different species of *tetanus* opium is successful, and affords relief to various spasmodic and convulsive symptoms occurring in several diseases, as asthma, epilepsy, &c.

In intermittent fevers, opium has been strongly recommended, as an effectual means of stopping the return of the febrile paroxysms, and has been given before the fit, in the cold stage, in the hot fit, and during the interval, with the best effects; producing immediate relief, and in a short time curing the patient. But in these fevers the best practice, perhaps, is to unite opium with the bark, which enables the stomach to bear the latter in larger doses, and adds considerably to its efficacy.

With regard to the dose of opium, one grain is generally sufficient, and often too large a one. Its dose, however, varies in different persons, and in different states of the same person. A quarter of a grain will in one adult produce effects which ten times the quantity will not do in another; and a dose that might be fatal in the colic or cholera would have not the smallest effect in many cases of tetanus, or mania. Given in the way of clyster, it has the same effects as when taken into the stomach; but, to answer the purpose, double the quantity must be employed.

Opium taken into the stomach in an immoderate dose, by those not accustomed to the use of it, proves a narcotic poison, producing giddiness, tremors, convulsions, delirium, stupor, and, finally, fatal apoplexy.

Opium applied externally gives ease in many pains, but does not, as some have supposed, stupefy the part, or render it insensible of pain. Used immoderately, it is said to produce the same ill effects as when taken to excess internally.

Pennyroyal.

This plant has a warm pungent flavour, similar to that of mint, of which it is a species, but more acrid, and less agreeable both in smell and taste. Pennyroyal certainly possesses the general properties of the other mints: it is supposed, however, to be of less efficacy as a stomachic, but more useful as a carminative and emmenagogue, and is more commonly employed in hysterical affections. We are told by Boyle, and others, that it has been successfully used in the hooping-cough; but the chief purpose for which it has long been administered is promoting the uterine evacuation. With this intention, Haller recommends an infusion of the herb with steel, in white wine, which he never knew to fail of success. In the opinion of Dr. Cullen, however, mint is in every respect a more effectual remedy than pennyroyal; and "nothing but the neglect of all attempts to establish principles could have made physicians think of this as a peculiar medicine different from the other species." Conformably to this remark, it may be observed that pennyroyal is less frequently used now than formerly.

Peppermint.

The spontaneous growth of this plant is said to be peculiar to Britain; but as it is commonly preferred to the other species of mint, its cultivation has long been extended over Europe, and that employed here is commonly raised in gardens. This species has a more penetrating smell than any of the other mints, and a much stronger and warmer taste, pungent and glowing like pepper, from which it has obtained its name. Its stomachic, antispasmodic, and carminative qualities render it useful in flatulent colics, hysterical affections, retchings, and other symptoms of indigestion, acting as a cordial, and often producing immediate relief.

Plantain, or Way-bread.

The common great plantain was formerly reckoned amongst the most efficacious of vulnerary herbs; and by the peasants the leaves are now commonly applied to fresh wounds and cutaneous sores. Inwardly they have been used in phthisical complaints, spitting of blood, and in various fluxes both alvine and hæmorrhagic. The seeds, however, seem better adapted to relieve pulmonary diseases than the leaves, as they are extremely mucilaginous. The roots have also been recommended for the cure of tertian intermittents, and, from the experience of Bergius, not undeservedly. An ounce or two of the expressed juice, or the like quantity of a strong infusion of plantain may be given for a dose: in agues, the dose should be double this quantity, and taken at the commencement of the fit.

Poppy, White.

This species is said to have been named white poppy from the whiteness of its seeds; a variety of it, however, is well known to produce black seeds: the double-flowered white poppy is also another variety; but for medicinal purposes any of these may be employed indiscriminately, as we cannot discover the least difference in their sensible qualities or effects.

The seeds, according to some authors, possess a narcotic power; but there seems to be no foundation for this opinion: they consist of a simple farinaceous matter, united with bland oil, and in many countries are eaten as food. As a medicine, they have been usually given in the form of emulsion, in catarrhs, stranguries, &c.

The heads or capsules of the poppy, which are directed for use in the dispensatories, like the stalks and leaves, have an unpleasant smell, somewhat like that of opium, and an acrid bitterish taste. Both the smell and taste reside in a milky juice, which abounds chiefly in the cortical part of the capsules. These capsules are powerfully narcotic, or anodyne: boiled in water, they impart to the menstruum their narcotic juice, together with the other juices which they have in common with vegetable substances in general. The liquor, strongly pressed out, suffered to settle, clarified with whites of eggs, and evaporated to a due consistence, yields an extract which possesses the virtues of opium, but requires to be given in double its dose to answer the same intention, which it is said to perform without occasioning a nausea and giddiness, the usual effects of opium. The syrup of white poppies, as directed by both colleges, is a useful anodyne, and often succeeds in procuring sleep where opium fails; it is more especially adapted to children. White poppy heads are also used externally in fomentations, either alone, or more frequently added to the decoction for fomentation, which consists of the leaves of southernwood, the tops of sea worm-wood, chamomile flowers, and bay-berries.

Quassia.

This is a native of South America, particularly of Surinam, and also of some of the West India islands. The root, wood, and bark, of this tree are all comprehended in the catalogues of the Materia Medica; but as the roots are perfectly ligneous, they may be medically considered in the same light as the wood, which is now most generally employed, and seems to differ from the bark in being less intensely bitter; the latter is therefore thought to be a more powerful medicine. Quassia has no sensible odour; its taste is that of a pure bitter, more intense and durable than that of almost any other known substance. It imparts its virtues more completely to watery than to spirituous menstrua. Quassia derived its name from a negro named Quassi, who employed it with uncommon success, as a secret remedy in the malignant epidemic fevers which frequently prevailed at Surinam. In consequence of a valuable consideration, this secret was disclosed to Daniel Rolander, a Swede, who brought specimens of the quassia-wood to Stockholm in the year 1756; and since that time the effects of this drug have been very generally tried in Europe, and numerous testimonies of its efficacy published by many respectable authors. Various experiments with quassia have likewise been made, with a view to ascertain its antiseptic powers, from which it appears to have considerable influence in retarding the tendency to putrefaction. This effect, professor Murray thinks, cannot be attributed to its sensible qualities, as it possesses no astringency whatever; nor can it depend upon its bitterness, as gentian is much more bitter, yet less antiseptic. The medicinal virtues ascribed to quassia are those of a tonic, stomachic, antiseptic, and febrifuge. It has been found very effectual in restoring the tone of the stomach, producing appetite for food, assisting digestion, expelling flatulency, and removing habitual costiveness, occasioned by debility of the intestines, and common to a sedentary life.

Rhubarb.

Rhubarb is the root of a plant of the dock kind, which grows spontaneously in China, Turkey, and other parts of the East; but the propagation of it has lately been introduced into our own country, with a degree of success which promises in time to supersede the use of the foreign root. This excellent purgative operates without violence or irritation, and may be given with safety even to pregnant women and children. Besides its purgative quality, it is celebrated for an astringent one, by which it strengthens the tone of the stomach and intestines, and proves useful in fluxes of the belly arising from a laxity of the fibres. Rhubarb in substance operates more powerfully as a purgative than any of the preparations of it; and its qualities are more perfectly extracted by water than by rectified spirit. The dose, when intended as a purgative, is from a scruple to a drachm or more.

Rose, Hundred-leaved.

Most of the roses, though much cultivated in our gardens, are far from being distinctly characterised. Those denominated varieties are extremely numerous, and often permanently uniform; and the specific differences, as hitherto pointed out, are in many respects so inadequate to the purpose of satisfactory discrimination, that it is difficult to say which are species, and which are varieties only. The London college, following Gerard and Parkinson, has still retained the name rosa damascena; but the damask rose is another species, widely different from the hundred-leaved, as appears from the descriptions given of it by Du Roi and Miller.

The petals are directed for medicinal use: they are of a pale red colour, and of a very fragrant odour; which to most people is extremely agreeable, and therefore this and most of the other roses are much used as nosegays. In some instances, however, under certain circumstances, they have produced alarming symptoms; such as inflammations of the eyes, faintings, hysterical affections, abortion, &c. Persons confined in a close room with a large quantity of roses have been in danger of immediate extinction of life. From the experiments of Priestley and Ingenhousz this effect seems owing to the mephitic air, which these and most other odoriferous flowers exhale.

The petals impart their odoriferous matter to watery liquors, both by infusion and distillation. On distilling large quantities, there separates from the watery fluid a small portion of a fragrant butyraceous oil, which liquefies by heat and appears yellow, but concretes in the cold into a white mass. A hundred pounds of the flowers, according to the experiments of Tachenius and Hoffman, afforded scarcely half an ounce of oil. The smell of this oil exactly resembles that of roses, and is therefore much used as a perfume. It possesses very little pungency, and has been highly recommended for its cordial and restorative virtues.

Rose, Red.

This is a native of the South of Europe, and is now common in our gardens, flowering in June and July. The flowers possess neither the fragrance nor the laxative power of those of the hundred-leaved, but are chiefly valued for their astringent qualities, which are most considerable before the petals expand, and therefore in this state they are chosen for medicinal use, and ordered by dispensatories in different preparations, such as those of a conserve, a honey, an infusion, and a syrup. The preparations, especially the first and second, have been highly esteemed in phthisical cases, particularly by the Arabian physicians. Avicenna and Mesue mention some remarkable instances of this kind which were cured by the roses. Riverius also cites several others; and the case of Krugar, related in the German Ephemerides, has been thought a still more evident proof of the efficacy of the conserve of roses in a consumption of the lungs: but as the use of the conserve was constantly joined with that of milk and farinaceous substances, together with proper exercise in the open air, it has been doubted whether these recoveries could be wholly imputed to the roses, though their mild astringent and corroborant virtues certainly contributed much. In some of the cases alluded to, twenty or thirty pounds of the conserve were taken in the space of a month. The quantity commonly used is far too inconsiderable to produce beneficial effects.

The infusion of roses is a grateful cooling subastringent, useful in spitting of blood, and some other hæmorrhagic complaints, as a gargle: its efficacy, however, depends chiefly on the acid. For the latter purpose, the honey of roses is also frequently used.

Rosemary.

This plant has a fragrant smell, and a bitterish pungent taste. The leaves and tops are the strongest in their sensible qualities. Rosemary gives out its virtues completely to rectified spirit, but only partially to water. It is reckoned one of the most powerful of those plants which stimulate and corroborate the nervous system: and has therefore been recommended in various affections, supposed to proceed from debility, or defective excitement of the nerves; as in certain head-achs, deafness, giddiness, palsy, &c. and in some hysterical and dyspeptic symptoms. Dr. Cullen supposes the stimulant power of rosemary insufficient to reach the sanguiferous system; it has, however, the character of being an emmenagogue; and the only disease in which Bergius states it to be useful, is the chlorosis or green-sickness. It is a principal ingredient in what is known by the name of Hungary-water.

Rue.

This plant is extremely common in our gardens, where it retains its verdure the whole year. It has a strong ungrateful smell, and a bitter, hot, penetrating taste: the leaves are so acrid, that by much handling they are said to irritate and inflame the skin; and the plant in its natural and uncultivated state is reported to possess these sensible qualities still more powerfully. Both water and rectified spirit extract its virtues, but the latter more powerfully than the former.

Rue was much used by the ancients, who ascribed to it many virtues. Hippocrates commends it as a resolvent and diuretic, and attributes to it the power of resisting the action of contagion, and other kinds of poisons; and with this intention it was used by Mithridates. But this imaginary quality of the rue is now little credited. It is doubtless, however, a powerful stimulant, and may be considered like other medicines of the fœtid kind, to have attenuating, deobstruent, and antispasmodic powers, and to be more peculiarly adapted to phlegmatic habits or weak and hysterical constitutions, suffering from retarded or obstructed secretions. By some it is employed in the way of tea.

Sage.

This has a fragrant strong smell, and a warm, bitterish, aromatic taste, like other plants containing an essential oil: it gives out its properties more perfectly to spirituous than to aqueous menstrua. In ancient times sage was celebrated as a remedy of great efficacy; but at present it is considered as of little importance in the Materia Medica; and, though frequently employed as a sudorific, it seems to have no advantage over other plants that render the fluids in which they are infused more agreeable to the stomach. By some it has been successfully used even for the porpose of restraining inordinate sweating. As possessing a small share of aromatic and astringent power, it may prove a serviceable tonic in some cases of debility of the stomach and nervous system. The Chinese, who are said to have experienced the good effects of sage in this way, esteem it highly, and prefer it to their own tea. It appears from experiments, that sage is endowed with the power of resisting the putrefaction of animal substances.

St. John's Wort.

This plant was in great esteem with the ancients, who prescribed it in the hysteric and hypochondriac diseases, and in madness. They even imagined that it had the power of curing demoniacs, whence it obtained the name of *fuga dæmonum*. It was also recommended internally for wounds, bruises, ulcers, spitting of blood, bloody urine, gravel, dysentery, agues, worms, and outwardly as an anodyne, and as a discutient and detergent. It is now, however, rarely used, and its name is omitted in the Materia Medica of the last edition of the Edinburgh Pharmacopœia.

Salt Wort, Prickly.

This plant is a native of Britain, and common on the sea-shore, flowering in July and August. Salt-wort, as well as various other plants, on being burned, is found to afford the fossil alkali. A species of it grows abundantly on that part of the Spanish coast which is washed by the Mediterranean Sea, and supplies all the best soda consumed in Europe, which by us is called Spanish or Alicant soda, and by the Spanish merchants *barilla de Alicante*.

To detail the peculiar properties of this alkali, would lead us too far, and is properly the province of chemistry. It is in common use in the manufacture of glass and soap, and as the latter is an article of the Materia Medica, we shall proceed to consider its medicinal effects.

All the soaps, of which there are several kinds, are composed of expressed vegetable oils, or animal fats, united with alkaline lixivia. The white Spanish soap, being made of the finer kinds of olive-oil, is the best, and therefore preferred for internal use.

The virtues of soap, according to Bergius, are detergent, resolvent, and aperient; and its use is recommended in jaundice, gout, calculous complaints, and in obstructions of the viscera. The efficacy of soap, in the first of these diseases, was experienced by Sylvius, and since recommended very generally by various authors who have written on this complaint; and it has also been thought of use in supplying the place of bile in the intestines. The utility of this medicine in the jaundice was inferred chiefly from its supposed power of dissolving biliary concretions; but it has lost much of its reputation in this disorder, from gall-stones being found, in many, after death, who had been daily taking soap for several months, and even years.

Of its good effects in calculous affections of the urinary passages, especially when dissolved in lime-water, by which its efficacy is considerably increased, we have the testimony of several. With Boerhaave, soap was a general medicine; for, as he attributed most complaints to a viscidity of the fluids, he, and most of the Boerhaavian school, prescribed it in conjunction with different resinous and other substances, in gout, rheumatism, and various visceral complaints.

Acids should never be used with soap, because they decompound it, by uniting with the alkaline salt, and thus separating it from the oil. In moderate quantity, soap seldom can enter the circulation in its perfect state; because there being always more or less of an acid in the stomach, the soap must be decompounded. It is therefore considered as a very good corrector of acidity in the stomach and bowels. If any service is to be expected from soap as a deobstruent and detergent, it must be given in larger doses than are commonly prescribed, or they should be much more frequently repeated. Soap is externally employed as a resolvent; and united with rectified spirit, camphor, and essential oils, it forms an agreeable application for superficial tumors, or others more deeply seated, strains, bruises, &c. The soft soaps are more penetrating and acrimonious than the hard, and are only used for some external purposes.

Sarsaparilla.

This plant is a native of America, and was, more than two hundred years ago introduced into Spain as an undoubted specific in venereal disorders. It was also celebrated as an efficacious medicine in some other diseases of the chronic kind. But whether owing to a difference of climate, or other causes, European practitioners soon found that it by no means answered the character which it had acquired in the Spanish West-Indies, and therefore it became very much neglected. Many physicians, however, still consider the sarsaparilla as a medicine of much efficacy; and though they admit that by the use of this root alone we are not to expect a cure of the lues venerea, yet they assert that when it is given along with mercury, the disease is much sooner subdued; and that ulcers, nodes, and other symptoms of this disorder, which resisted the effects of repeated salivations, have afterwards disappeared by the continued use of sarsaparilla. Notwithstanding the unfavourable opinion of a great authority respecting sarsaparilla, it is in frequent use at most of the London hospitals, after the use of mercury, in venereal complaints. Sarsaparilla is also recommended in rheumatic affections, scrophula, and cutaneous disorders, or where an acrimony of the fluids prevails. It may be given in decoction or powder, and should be continued in large doses for a considerable time.

Sassafras.

The sassafras-tree is a native of North America, whence the wood is now usually imported into this country. It has a fragrant smell, and a sweetish, aromatic, subacrid taste. The root, wood, and bark, agree in their medicinal qualities; but the bark is the most fragrant, and thought to be more efficacious than the woody part.

Sassafras is used as a mild, corroborant, diaphoretic, and sweetener in scorbutic, venereal, cachectic, and catarrhal disorders. Its supposed medicinal virtues were formerly held in great estimation, but it is now thought to be of very little importance, and seldom employed but in conjunction with other medicines of a more powerful nature.

Watery infusions of sassafras, made both from the cortical and woody part, rasped or shaved, are commonly drunk as tea; but the spirituous tincture, or extract, which contains both the volatile and fixed parts of the medicine, appears to be preferable.

Savin.

This is a native of the south of Europe and the Levant, but has long been cultivated in our gardens. It is a powerful and active medicine, particularly noted for producing a determination to the uterus, and thereby proving emmenagogue. It heats and stimulates the whole system very considerably, and is said to promote the more fluid secretions.

The power which this plant possesses in opening uterine obstructions is considered to be so great, that we are told it has been frequently employed for infamous and unnatural purposes. It seems probable, however, that its effects in this may have been exaggerated, since it is found very frequently to fail as an emmenagogue; though this in some measure may be ascribed to the smallness of the dose in which it has usually been administered. Dr. Cullen observes, "that savin is a very acrid and heating substance, and I have been often, upon account of these qualities, prevented from employing it in the quantity perhaps necessary to render it emmenagogue. I must own, however, that it shows a more powerful determination to the uterus than any other plant I have employed; but I have been frequently disappointed in this, and its heating qualities always require a great deal of caution." Dr. Home appears to have had very great success with this medicine: for in five cases of obstructions of the menses, which occurred at the Royal Infirmary at Edinburgh, four were cured by the savin, which he gave in powder from a scruple to a drachm twice a-day. He says it is well suited to the debile, but improper in plethoric habits, and therefore orders repeated bleedings before its exhibition. Externally savin is recommended as an escharotic to foul ulcers, warts, &c.

Saxifrage, Burnet.

This plant is a native of Britain, and grows in dry meadows and pastures. The root has a grateful, warm, very pungent taste, which is entirely extracted by rectified spirit. It promises, from its sensible qualities, to be a medicine of considerable efficacy, though little regarded in common practice. Stahl, Hoffman, and other German physicians, are extremely fond of it, and recommend it as an excellent stomachic, resolvent, detergent, diuretic, diaphoretic, and alexipharmic. They frequently gave it with success in scorbutic and cutaneous disorders, foulness of the blood and juices, tumors and obstructions of the glands, and diseases proceeding from a deficiency of the fluid secretions in general. Boerhaave directs the use of this medicine in asthmatic and hydropic cases where the strongest resolvents are indicated.

By several writers it is recommended as a stomachic, and in all cases where phlegmatic humours are thought to prevail, not only in asthmas and dropsies, but also in catarrhal coughs, hoarseness, and the serous sore throat. Hoffman considers it as an excellent emmenagogue. In the way of gargle it has been employed for dissolving viscid mucus, and to stimulate the tongue when that organ becomes paralytic. It may be given in doses of a scruple in substance, and in infusion to two drachms.

Scurvy-grass.

This plant has an unpleasant smell, and a warm, acrid, bitter taste. Its active matter is extracted by maceration both in watery and spirituous menstrua, and accompanies the juice obtained by expression. The most considerable part of it is of a very volatile kind; the peculiar penetrating pungency totally exhaling in the exsiccation of the herb, and in the evaporation of the liquors. Its principal virtue resides in an essential oil, separable in a very small quantity, by distillation with water.

This plant is antiseptic, attenuant, aperient, and diuretic; and is said to open obstructions of the viscera and remoter glands, without heating or irritating the system. It has been long considered as the most efficacious of all the antiscorbutic plants, and its sensible qualities are sufficiently powerful to confirm this opinion. In what is called the scorbutic rheumatism, consisting of wandering pains of long continuance, this plant, combined with arum and wood-sorrel, is highly recommended both by Sydenham and Lewis. As an antiscorbutic, it is best used fresh, in the manner of sallad, or taken in the form of expressed juice, as directed in the dispensatories.

Seneka, or Rattlesnake-root.

This root discovers no remarkable smell, but has a peculiar kind of subtile, pungent, penetrating taste. Its virtue is extracted both by water and spirit, though the powder in substance is supposed to be more efficacious than either the decoction or tincture. The watery decoction, on first tasting, seems not unpleasant, but the peculiar pungency of the root quickly discovers itself, spreading through the fauces, or exciting a copious discharge of saliva, and frequently a short cough

The rattlesnake-root was first introduced to the attention of physicians about seventy years ago, by Dr. John Tennent, whose intercourse with the Indian nations led him to discover that they possessed a specific medicine against the poison of the rattlesnake, which, in consequence of a stipulated reward, was revealed to him, and found to be the root of this plant, employed by the Indians both internally and externally. Cases afterwards occurred, under his own observation, which fully convinced him of the efficacy of this medicine; and as the Doctor remarked that pleuritic or peripneumonic symptoms were generally produced by the action of this poison, he thence inferred that the rattlesnake-root might also be an useful remedy in diseases of this kind. It was accordingly tried in pleurisies, not only by Dr. Tennent himself, but by several of the French academicians and others, who all unite in testimony of its good effects. In many of those cases, however, recourse was had to the lancet, and even the warmest advocates for the seneka admit, that, in the true pleurisy, repeated bleeding is at the same time not to be neglected. The reputation which this root obtained in peripneumonic affections, induced some to employ it in other inflammatory disorders, in which it proved serviceable, particularly the rheumatism. It has also been prescribed with much success in dropsies. The usual dose is from one scruple to two of the powder, or two or three table-spoonfuls of a decoction, prepared by boiling an ounce of the root in a pint and a half of water till it is reduced to one pint.

Sénna.

This plant is a native of Egypt. It also grows in some parts of Arabia, especially about Mocha; but as Alexandria has ever been the great mart from which it has been exported into Europe, it has long been distinguished by the name of Alexandrian senna, or sena.

The leaves of senna have rather a disagreeable smell, and a sub-acrid, bitterith, nauseous taste. They give out their virtue both to watery and spirituous menstrua, and have long been employed as a purgative. How bitterness aids the operation of senna we know not; but it is observed by Dr. Cullen, " that when senna was infused in the infusum amarum, a less quantity of senna was necessary for a dose than the simple infusions of it." The same author has remarked, "that as senna seldom operates without much griping, its frequent use is a proof how much most part of practitioners are guided by imitation and habit." Senna, however, when infused in a large proportion of water, as a drachm of the leaves to four ounces of water, rarely occasions much pain of the bowels, and, to those who do not object to the bulkiness of the dose, may be found to answer all the purposes of a common purgative. For covering the taste of senna Dr. Cullen recommends coriander seeds; but for preventing its griping, he thinks that the warmer aromatics, such as cardamoms or ginger, would be more effectual.

Simaruba.

The simaruba kept in the shops is the bark of the roots of this tree, which has been many years celebrated for its virtues in the cure of the dysentery. In the years 1718 and 1723, an epidemic flux prevailed very generally in France, which resisted all the medicines usually employed in such cases; small doses of ipecacuanha, mild purgatives, and all astringents were found to aggravate, rather than to relieve, the disease. Under these circumstances recourse was had to the bark of the simaruba, which proved remarkably successful, and first established its character in Europe as a valuable medicine. Most authors who have written on the simaruba agree, that in fluxes it restores the lost tone of the intestines, allays their spasmodic motions, promotes the secretions by urine and perspiration, removes that lowness of spirits attending dysenteries, and disposes the patient to sleep: the gripes and tenesmus are taken off, and the stools are changed to their natural colour and consistence. In a moderate dose, it occasions no disturbance nor uneasiness, but in large doses it produces sickness at the stomach and vomiting.

More recent experience has evinced, that this medicine is only successful in the third stage of the dysentery, where there is no fever, where the stomach likewise is no way hurt, and where the gripes and tenesmus are only continued by the weakness of the bowels. In such cases Dr. Monro gave two or three ounces of the decoction every five or six hours, with four or five drops of laudanum, and found it a very effectual remedy. The late Sir John Pringle, Dr. Huck Saunders, and many others, prescribed the simaruba-bark in old and obstinate dysenteries and diarrhœas, especially those brought from warm climates.

Dr. Wright recommends two drachms of the bark to be boiled in twenty-four ounces of water to twelve: the decoction is then to be strained and divided into three equal parts, the whole of which is to be taken in twenty-four hours, and when the stomach is reconciled to this medicine, the quantity of the bark may be increased to three drachms.

It may not be improper here to subjoin what is said of the simaruba by Dr. Cullen. " We can perceive nothing in this bark but that of a simple bitter; the virtues ascribed to it in dysentery have not been confirmed by my experience, or that of the practitioners in this country; and, leaving what others are said to have experienced to be further examined and considered by practitioners, I can only at present say, that my account of the effect of bitters will perhaps explain the virtues ascribed to simaruba. In dysentery I have found an infusion of chamomile flowers a more useful remedy."

Sloe-Tree.

The fruit of the sloe, or, as it is frequently called, blackthorn, is so sharp and austere as not to be eatable till thoroughly mellowed by frosts: its juice is extremely viscid, so that the fruit requires the addition of a little water, in order to admit of expression. The juice obtained from the unripe fruit, and inspissated to dryness by a gentle heat, is the German acacia, and has been usually sold in the shops for the Egyptian acacia, from which it differs in being harder, heavier, darker coloured, of a sharper taste, and more especially in giving out its astringency to rectified spirit.

Sloes have been recommended in diarrhœas, hæmorrhagic affections, and as gargles in tumefactions of the tonsils and uvula. Dr. Cullen considers the sloe as the most powerful of the austere fruits, and adds that he has often found it an agreeable and useful astringent. Dr. Withering says, " The tender leaves dried are sometimes used as a substitute for tea, and is I believe the best substitute that has yet been tried. The fruit bruised, and put into wine, gives it a beautiful red colour, and a pleasant sub-acid roughness. Letters written upon linen or woollen with the juice of this fruit will not wash out."

Snake-root.

This is a species of the aristolochia, growing in Virginia and Carolina. It has an aromatic smell, approaching to that of valerian, but more agreeable, and a warm, bitterish, pungent taste, which is not easily concealed or overpowered by a large admixture of other materials.

Snake-root was first recommended as a medicine of extraordinary power in counteracting the poisonous effects of the bites of serpents, and it has since been much employed in fevers, particularly those of the malignant kind; a practice which seems to be founded on a supposition that the morbific matter of these fevers is somewhat analogous to the poison of the serpents, and that its influence upon the human system might be obviated by the same means. Modern physicians, however, have exploded the theory of antidotes.

Serpentaria is thought to possess tonic and antiseptic virtues, and is generally admitted to be a powerful stimulant and diaphoretic; and in some fevers where these effects are required, both this and contrayerva have been found very useful medicines. The dose of snake-root is usually from ten to thirty grains in substance, and to a drachm or two in infusion.

Soap. See *Salt-wort.*

Sorrel-Wood.

This delicate little plant is totally inodorous, but has a grateful acid taste, approaching nearly to that of the juice of lemons, or the acid of tartar, which it also resembles in a great measure in its medicinal effects, being esteemed cooling, antiscorbutic, and diuretic. It is recommended by Bergius in inflammatory, bilious, and putrid fevers. The principal use, however, of the acetosella is to allay inordinate heat, and to quench thirst; for which purpose, a pleasant whey may be made by boiling the plant in milk. An essential salt is prepared from this plant, known by the name of essential salt of lemons, and commonly used for taking ink-stains out of linen.

Sorrel, Common.

The leaves of common sorrel have an agreeable acid taste, like that of wood-sorrel, and are medicinally employed for the same purposes. Sorrel taken in considerable quantity, or used variously prepared as food, will be found of advantage where a cooling and antiscorbutic regimen is required.

Southernwood.

This plant is a native of France, Spain, and Italy. It was cultivated here by Gerard, and its odour renders it so generally acceptable, that there are few gardens in which it is not to be found. But though it bears very well the cold of our winters, it very rarely is ever known to flower in this country.

The leaves and tops of southernwood have a strong, and, to most people, an agreeable smell: its taste is pungent, bitter, and somewhat nauseous. It has been regarded as stomachic, carminative, and deobstruent; and is supposed to stimulate the whole system, more particularly that of the uterus. But though it still retains a place both in the London and Edinburgh Pharmacopœias, it is now rarely used, unless in the way of fomentation.

Spear-mint.

This plant grows wild in many parts of England, but is more rarely met with in this state than the pepper-mint. It is not so warm to the taste as the last mentioned, but has a more agreeable flavour, and is therefore preferred for culinary uses, and more generally cultivated in our gardens.

On drying, the leaves lose about three-fourths of their weight, without suffering much loss of their smell or taste. Cold water, by maceration for six or eight hours on the dried herb, and warm water in a shorter time, become richly impregnated with its flavour. By distillation, a pound and a half of the dry leaves communicate a strong impregnation to a gallon of water; but the distilled water proves rather more elegant if drawn from the fresh plant in the proportion of ten pints from three pounds.

Spear-mint possesses the same medicinal qualities which have been noticed of pepper-mint; but the different preparations of the former, though more pleasant, are perhaps less efficacious. It contains much essential oil, but of an odour somewhat less agreeable than that of lavender and marjoram. It is therefore less employed as a cephalic; but it acts very powerfully on the parts to which it is immediately applied, and therefore considerably on the stomach, invigorating all its functions. It acts especially as an antispasmodic, and therefore relieves pains and colic depending upon spasm. It will also stop vomiting proceeding from such a cause: but there are many cases of vomiting in which it is of no service; and in those cases any wise depending upon inflammatory irritation in the stomach itself, or in other parts of the body, it aggravates the disease, and increases the vomiting. Practitioners are of opinion, that the infusion of mint in warm water agrees better with the stomach than the distilled water, which is often somewhat empyreumatic.

Lewis observes, that it is said by some to prevent the coagulation of milk; and hence it has been recommended to be used along with milk-diets, and even in cataplasms and fomentations for resolving coagulated milk in the breasts. Upon experiment, the curd of milk, digested in a strong infusion of mint, could not be perceived to be any otherwise affected than by common water; but milk, in which mint-leaves were set to macerate, did not coagulate near so soon as an equal quantity of the same milk kept by itself.

Spermaceti.

This is an unctuous flaky substance, of a white colour, and a soft butyraceous taste, without any remarkable smell; said to be prepared from the fat of the brain of the whale, by boiling and purifying it with alkaline lixivia. The virtues of this concrete are those of an emollient. It is of considerable use in pains and erosions of the intestines, in coughs proceeding from thin sharp defluxions, and, in general, in all cases where the solids require to be relaxed, or acrimonious humours to be softened. For external purposes, it readily dissolves in oils; and, for internal use, may be united with watery liquors into the form of an emulsion, by the intervention of almonds, gums, or yolk of an egg. Sugar does not render it perfectly miscible with water; and alkalies, which change other oils and fats into soap, have little effect upon spermaceti. This drug ought to be kept very closely from the air, otherwise its white colour soon changes into a yellow, and its mild unctuous taste into a rancid and offensive one. After it has suffered this disagreeable alteration, both its colour and quality may be recovered by steeping it in alkaline liquors, or in a sufficient quantity of spirit of wine.

Squill, or Sea-Onion.

This plant is a native of Spain, Sicily, and Syria, growing in sandy situations on the sea-coast, and was first cultivated in England about a hundred and fifty years ago. The red-rooted variety has been supposed to be more efficacious than the white, and is therefore still preferred for medicinal use. It is very nauseous to the taste, intensely bitter and acrimonious, but without any perceptible smell.

The root of the squill appears to manifest a poisonous quality to several animals; in proof of which we have the testimonies of Hillefield, Bergius, Vogel, and others. Its acrimony is so great, that even if much handled it exulcerates the skin; and if given in large doses, and frequently repeated, it not only excites nausea, gripes, and vomiting, but it has been known to produce strangury, bloody urine, violent purging, heartburn, hæmorrhoids, convulsions, with fatal inflammation and gangrene of the stomach and bowels. But as many of the more active substances of the Materia Medica, by injudicious administration, become equally deleterious, these effects of the sqnill do not derogate from its medicinal virtues. On the contrary, this drug, under proper management, and in certain cases and constitutions, is a medicine of great utility in the cure of many obstinate diseases. It powerfully stimulates the solids, and attenuates viscid juices; by which qualities it promotes expectoration, urine, and (if the patient be kept warm) sweat. In dropsical cases, it has long been esteemed one of the most certain and efficacious diuretics with which we are acquainted, and usually employed in humoral asthmas as an expectorant. In all pulmonic affections, excepting only those of actual inflammation, ulcer, or spasm, the squill has been experienced to be a useful medicine.

The preparations of squills kept in the shops, are, a conserve, syrup, vinegar, oxymel, and pills; but practitioners do not always confine themselves to these. When the root is intended as a diuretic it has most commonly been used in powder, as being in this state less disposed to nauseate the stomach; and to the powder it has been the practice to add neutral salts, such as nitre, or crystals of tartar, especially if the patient complained of much thirst: others recommend calomel; and, with a view to render the squill less offensive to the stomach, it has been usual to join with it an aromatic. The dose of dried squill is from two to four or six grains, once a-day, or half this quantity twice a-day; afterwards to be regulated according to its effects. The dose of the other preparations of the squill, when fresh, should be four times this weight; for this root loses, in the process of drying, four-fifths of its original weight; and this loss is merely a watery exhalation.

Tamarind.

This is the fruit of a tree, which appears, upon various authorities, to be a native of both the Indies, America, Egypt, and Arabia. The pulp of the tamarind, with the seeds, connected together by numerous tough strings or fibres, are brought to us freed from the outer shell, and commonly preserved in syrup. This fruit contains a large proportion of acid with the saccharine matter, and is therefore not only employed as a laxative, but also for abating thirst and heat in various inflammatory complaints, and for correcting putrid disorders, especially those of a bilious kind. When intended merely as a laxative, it may be of advantage to join it with manna, or purgatives of a sweet kind, by which its use is rendered safer and more effectual. Three drachms of the pulp are usually sufficient to open the body; but, to prove moderately cathartic, one or two ounces are required.

Tansy.

This plant grows wild by road-sides, and the borders of fields; and is frequently also cultivated in gardens, both for culinary and medicinal uses. According to Bergius, the virtues of tansy are tonic, stomachic, anthelmintic, emmenagogue, and resolvent; qualities usually attributed to bitters of the warm or aromatic kind. Tansy has been much used as a vermifuge; and testimonies of its efficacy are given by many respectable physicians. Not only the leaves but the seeds have been employed with this intention, and substituted for those of santonicum. Some have entertained a high opinion of it in hysteric disorders, particularly those proceeding from a deficiency or suppression of the uterine purgations. This plant is given in the quantity of half a drachm or more for a dose; but it is more commonly taken in infusion, and drunk as tea.

Tar.

This substance is properly an empyreumatic oil of turpentine, and has been much used as a medicine both internally and externally. Tar-water, or water impregnated with the more soluble parts of tar, was upwards of half a century ago a very popular remedy in various obstinate disorders, both acute and chronic; especially in the small-pox, scurvy, ulcers, fistulas, rheumatism, asthma, coughs, cutaneous complaints, &c.; and though its medicinal efficacy was greatly exaggerated by the publications of Bishop Berkeley, Prior, and others, yet Dr. Cullen acknowledges that he experienced this preparation in several cases to be a valuable medicine, and that it appeared to strengthen the tone of the stomach, to excite appetite, promote digestion, and to cure all symptoms of dyspepsia. At the same time it manifestly promotes the excretions, particularly that of urine. From all these effects, there is reason to conclude, that in many disorders of the system this medicine may be highly useful.

An ointment of tar, which has been chiefly employed in cutaneous disorders, is directed in the dispensatory both of London and Edinburgh. In respect of tar, Dr. Cullen informs us that he had met with an empirical practice of a singular kind. "A leg of mutton is laid to roast; and whilst it continues roasting, a sharp skewer is frequently thrust into the substance of the mutton, to give occasion to the running out of the gravy; and with the mixture of the tar and gravy to be found in the dripping-pan, the body is to be anointed all over for three or four nights successively; whilst for the same time the same body-linen is to be worn. This is alleged to be a remedy in several cases of lepra; and I have had one instance of its being employed in a lepra ichthyosis with great success: but for reasons readily to be apprehended, I have not had opportunities of repeating the practice."

Tartar.

This is a substance which is thrown off from wines to the sides and bottom of the cask, and consists of the vegetable alkali supersaturated with acid. When taken from the cask, it is found mixed with an earthy, oily, colouring matter. It is purified by dissolving it in boiling water, and separating the earthy part by filtering the solution. This, while cooling, deposits irregular crystals, containing the colouring matter, which is separated by boiling the mass with white clay. The tartar, thus purified, is called cream of tartar. If this be exposed to a red heat, its acid flies off, and what remains is the vegetable alkali, or salt of tartar.

Crystals of tartar are in common use as a laxative, and mild cathartic. They are also esteemed for their cooling and diuretic qualities, and therefore have been much employed in dropsies, and other cases requiring an antiphlogistic treatment. Dr. Cullen says, " that in large doses they act like a purgative, in exciting the action of the absorbents in every part of the system, and that more powerfully than happens from the operation of any entirely neutral salt." Hence arises their utility in the cure of dropsies. It must, however, be remarked, that they do not readily pass off by the kidneys, unless taken with a large quantity of water; and therefore when intended as a diuretic, they ought to be given in a liquid form, as Dr. Holme has directed. The dose is to be regulated according to the circumstances, from a drachm to two ounces.

Thyme, Garden.

This herb has an agreeable aromatic smell, and a warm pungent taste. Bergius considers thyme as resolvent, emmenagogue, diuretic, tonic, and stomachic; but we find no disease mentioned in which its use is particularly recommended either by him or other writers. As agreeing in common with the natural order of the verticillatæ, its aromatic qualities may be found equally useful in some of those complaints for which lavender, sage, rosemary, &c. are usually employed.

Tobacco.

Tobacco was first imported into Europe about the middle of the sixteenth century. The different sorts of tobacco and snuffs now prepared from this plant are to be attributed to the difference of the climate and soil in which it is raised, and the peculiar mode of manufacture, rather than to any essential difference in its natural qualities. The vast consumption of tobacco, in the various ways of using it, sufficiently evinces the importance of an inquiry into its effects upon the body; and this having been treated with much attention by Dr. Cullen, we are persuaded that no apology will be thought necessary for transcribing the sentiments of the learned professor on this interesting subject. " Tobacco (says he) is a well known drug, of a narcotic quality, which it discovers in all persons, even in small quantity, when first applied to them. I have known a small quantity of it snuffed up the nose produce giddiness, stupor, and vomiting; and when applied in different ways, in larger quantity, there are many instances of its more violent effects, even of its proving a mortal poison. In all these instances, it operates in the manner of other narcotics: But along with its narcotic qualities it possesses also a strongly stimulant power; perhaps with respect to the whole system, but especially with respect to the stomach and intestines; so as readily, even in no great doses, to prove emetic and purgative.

"By this combination of qualities, all the effects of tobacco may be explained; but I shall begin with considering its effects as they appear in the use of it as an article of living.

"As such it has been employed by snuffing, smoking, and chewing; practices which, as having been for two hundred years past common to all Europe, need not be described here. Like other narcotics, the use of it may be introduced by degrees; so that its peculiar effects, even from large quantities employed, may not, or may hardly at all appear: but this does not at all contradict the account I have given of its quality with respect to persons unaccustomed to it: for even in these, the power of habit has its limits; so that in persons going but a little beyond the dose to which they have been accustomed, very violent effects are sometimes produced.

"On this subject it is to be remarked, that the power of habit is often unequal; so that in persons accustomed to the use of tobacco, a lesser quantity than what they had been accustomed to will often have stronger effects than had before commonly appeared. I knew a lady who had been for more than twenty years accustomed to take snuff, and that at every time of the day; but she came at length to observe, that snuffing a good deal before dinner took away her appetite: and to find, that a single pinch, taken any time before dinner, took away almost entirely her appetite for that meal. When, however, she abstained entirely from snuff before dinner, her appetite continued as usual; and after dinner, for the rest of the day, she took snuff pretty freely without any inconvenience.

"This is an instance of the inequality of the power of habit in exerting its effects: but in what cases this may take place, we cannot determine, and must now go on in marking its usual and ordinary powers. When snuff, that is, tobacco in powder, is first applied to the nose, it proves a stimulus, and excites sneezing; but by repetition that effect entirely ceases.

" When snuff is first employed, if it be not both in small quantity and be not thrown out immediately by sneezing, it occasions some giddiness and confusion of the head; but by repetition these effects cease to be produced, and no other effect of it appears in the accustomed, when not taken beyond the accustomed quantity. But even in the accustomed, when it is taken beyond the usual quantity, it produces somewhat of the same giddiness and confusion of head that it did when first employed; and in several cases, these effects in the accustomed, depending on a larger dose, are not only more considerable, as they act on the sensorium, but as they appear also in other parts of the system, particularly in the stomach, occasioning a loss of appetite, and other symptoms of a weakened tone in that organ.

" With respect to this, it is to be observed, that persons who take a great deal of snuff, though they seem, from the power of habit, to escape its narcotic effects, yet as they are often liable to go to excess in the quantity taken, so they are still in danger from these effects operating in an insensible manner; and I have observed several instances of their being affected in the same manner as persons are from the long continued use of other narcotics, such as wine and opium; that is, by a loss of memory, by a fatuity, and other symptoms of the weakened or senile state of the nervous system, induced before the usual period.

" Among other effects of excess in snuffing, I have found all the symptoms of dyspepsia produced by it, and particularly pains of the stomach, occurring every day. The dependance of those upon the use of snuff became very evident from hence, that upon an accidental interruption of snuffing for some days, these pains did not occur; but upon a return to snuffing, the pains also recurred; and this alternation of pains of the stomach and of snuffing having occurred again, the snuff was entirely laid aside, and the pains did not recur for many months after, nor, so far as I know, for the rest of life.

" A special effect of snuffing is its exciting a considerable discharge of mucus from the nose; and there have been several instances of head-achs, tooth-achs, and ophthalmias relieved by this means: and this is to be particularly remarked, that when this discharge of mucus is considerable, the ceasing or suppression of it by abstaining from snuff, is ready to occasion the very disorders of head-ach, tooth-ach, and ophthalmia, which it had formerly relieved.

"Another effect of snuffing to be taken notice of is, that as a part of the snuff is often carried back into the fauces, so a part of this is often carried down into the stomach, and then more certainly produces the dyspeptic symptoms mentioned. These are the considerations that relate to snuffing; and some of them will readily apply to the other modes of using this drug.

" Smoking, when first practised, shows very strongly the narcotic, vomiting, and even purging powers of tobacco, and it is very often useful as an anodyne; but by repetition these effects disappear, or only show themselves when the quantity smoked is beyond what habit had before admitted of; and even in persons much accustomed to it, it may be carried so far as to prove a mortal poison. From much smoking all the same effects may arise which we said might arise from excess in snuffing.

" With respect to the evacuation of mucus which is produced by snuffing, there are analogous effects produced by smoking, which commonly stimulates the mucous follicles of the mouth and fauces, particularly the excretories of the salivary glands. By the evacuation from both sources, with the concurrence of the narcotic power, the tooth-ach is often greatly relieved by it; but we have not found the smoking relieve head-achs and ophthalmias so much as snuffing often does. Sometimes smoking dries the mouth and fauces, and occasions a demand for drink; but as commonly the stimulus it applies to the mucous follicles and salivary glands draws forth their liquids, it occasions on the other hand a frequent spitting.

" So far as this is of the proper saliva, it occasions a waste of that liquid so necessary in the business of digestion; and both by this waste, and by the narcotic power at the same time applied, the tone of the stomach is often weakened, and every kind of dyspeptic symptoms are produced. Though in smoking a great part of the smoke is again blown out of the mouth, still a part of it must necessarily pass into the lungs, and its narcotic power applied there often relieves spasmodic asthma; and by its stimulant power it there also sometimes promotes expectoration, and proves useful in catarrhal or pituitous difficulty in breathing.

"Smoking has been frequently mentioned as a means of guarding men against contagion. In the case of the plague, the testimony of Diemerbrock is very strong; but Riverius and others give us many facts which contradict this; and Chenot gives a remarkable instance of its inutility. We cannot, indeed, suppose that tobacco contains an antidote of any contagion, or that, in general, it has any antiseptic power; and therefore we cannot allow that it has any special use in this case: but it is very probable that this and other narcotics, by diminishing sensibility, may render men less sensible of contagion; and, by rendering the mind less active and anxious, it may also render men less liable to fear, which has so often the power of exciting the activity of the contagion. The antiloimic powers of tobacco are, therefore, on the same footing with those of wine, brandy, and opium.

"The third mode of using tobacco is that of chewing it, when it shows its narcotic qualities as strongly as in any other way of applying it; though the nauseous taste of it commonly prevents its being carried far in the first practice. When the practice, however, is continued, as it is very difficult to avoid some part of it, dissolved in the saliva, from going down into the stomach, so this, with the nausea excited by the taste, makes vomiting more readily occasioned by this than the other modes of applying it. They are the strong, and even disagreeable, impressions repeated, that give the most durable and tenacious habits; and therefore the chewing of tobacco is apt to become one of these; and it is therefore in this way that it is ready to be carried to the greatest excess, and to show all the effects of the frequent and large use of narcotics. As it commonly produces a considerable evacuation from the mouth and fauces, so it is the most powerful in relieving the rheumatic affection of tooth-ach. This practice is also the occasion of the greatest waste of saliva; and the effects of this in weakening digestion, and perhaps from thence especially, its noted effect of producing emaciation may appear.

These are the effects of the different modes of employing tobacco, when it comes to be of habitual use and an article of living. These effects depend especially upon its narcotic power, and certain circumstances accidentally attending its application, and the nose and mouth; but as we have observed before, that beside its narcotic it possesses also a stimulant power, with respect to the alimentary canal,—by this it is frequently employed as a medicine for exciting either vomiting or purging, which it does as it happens to be more immediately applied to the stomach or to the intestines.

"An infusion of from half a drachm to a drachm of the dried leaves, or of these as they are commonly prepared for chewing, for an hour or two, in four ounces of boiling water, affords an emetic which has been employed by some practitioners, but more commonly by the vulgar only. As it has no peculiar qualities as an emetic, and its operation is commonly attended with severe sickness, it has not been, nor is it likely ever to come into common practice with physicians.

"It is more commonly employed as a purgative in clysters; and, as generally very effectual, it is employed in all cases of more obstinate costiveness; and its powers have been celebrated by many authors. I have known it to be in frequent use with some practitioners; and it is, indeed, a very effectual medicine; but attended with this inconvenience, that, when the dose happens to be in any excess, it occasions severe sickness at stomach; and I have known it frequently occasion vomiting.

"It is well known that in cases of obstinate costiveness, in ileus, and incarcerated hernia, the smoke of burning tobacco has been thrown into the anus with great advantage. The smoke operates here by the same qualities that are in the infusions of it above mentioned; but as the smoke reaches much farther into the intestines than injections can commonly do, it is thereby applied to a larger surface, and may therefore be a more powerful medicine than the infusions. In several instances, however, I have been disappointed of its effects, and have been obliged to have recourse to other means.

"The infusion of tobacco, when it is carried into the blood-vessels, has sometimes shown its stimulant powers exerted in the kidneys; and very lately we have had it recommended to us as a powerful diuretic of great service in dropsy. Upon the faith of these recommendations we have now employed this remedy in various cases of dropsy,.

but with very little success. From the small doses that are proper to begin with we have hardly observed any diuretic effects; and though from larger doses they have in some measure appeared, we have seldom found them considerable; and when, to obtain these in a greater degree, we have gone on increasing the doses, we have been constantly restrained by the severe sickness at stomach, and even vomiting, which they occasioned; so that we have not yet learned the administration of this remedy so as to render it a certain or convenient remedy in any cases of dropsy.

"The same circumstances have occurred to several other practitioners of this city and neighbourhood; and of late the trials of it have been very generally omitted, owing, perhaps, to our practitioners being directed at the same time to the use of the digitalis, with which they have had some more success.

"From some experiments we are certain that tobacco contains a quantity of volatile parts that may be dissipated by long boiling in water; and that by such a practice its emetic, purgative, and narcotic qualities may be greatly diminished; and we are of opinion that the preparation in extract, as prescribed in the Wirtemberg Dispensatory, is upon a good foundation, and may be employed in pectoral cases with more advantage and safety than the simple infusion or decoction made by a short boiling only.

"When we were restrained in employing the infusion of tobacco as a diuretic as mentioned, we expected to succeed better with the decoction; and I have found that, by long boiling, this might be given in much larger doses than the infusion; but we still found it retaining so much of the emetic quality that we could not employ it as a diuretic without being interrupted in its use by the same emetic quality that had interrupted the use of the infusion.

"Besides the internal uses of tobacco mentioned, I must now remark that it has likewise been commended for its virtues as externally employed. I have known the infusion employed with advantage as a lotion for some obstinate ulcers; but the many instances of its being absorbed, and proving thereby a violent poison, dissuade from such a practice, especially as there are other medicines of as much efficacy that may be employed with much more safety. Bergius recommends it to be employed as a fomentation in the paraphymosis; but we have had no opportunity of employing it."

Tormentil.

This plant is found wild in woods and on commons. The root is the only part which is used medicinally: it has a strong styptic taste, but accompanied with a slight aromatic flavour. As a proof of its powerful astringency, it has been substituted for oak bark in the process of tanning. This root has been long held in great estimation by physicians as a useful astringent; and as it contains but a very inconsiderable portion of resin, it is more particularly adapted to those cases where the heating and stimulating medicines of this class are less proper, such as phthisical diarrhœas, bloody diarrhœas, &c. Dr. Cullen thinks it has been justly commended for every virtue that is competent to astringents, and says,—"I myself have had several instances of its virtues in this respect; and particularly I have found it, both by itself and as joined with gentian, cure intermittent fevers; but it must be given in substance, and in large quantities."

This root may be given in powder, from half a drachm to one drachm or more for a dose; but it is more generally given in decoction. For this purpose an ounce and a half of the powdered root is directed to be boiled in three pints of water to a quart, adding, towards the end of the boiling, a drachm of cinnamon. Of the strained liquor, sweetened with an ounce of any agreeable syrup, two ounces or more may be taken four or five times a day.

Turpentine.

This is a resinous juice extracted from certain species of the fir-tree. There are four kinds of turpentine distinguished in the shops; *viz.* Chio or Cyprus turpentine, Venetian turpentine, Strasburg turpentine, and common turpentine.

The first of these turpentines is generally about the consistence of thick honey, very tenacious, clear, and almost transparent, of a white colour, with a cast of yellow, and frequently of blue. It has a warm, pungent, bitterish taste, and a fragrant smell, more agreeable than any of the other turpentines.

The Venetian turpentine is usually thinner than any of the other sorts, of a clear whitish or pale yellowish colour, a hot, pungent, bitterish, disagreeable taste, and a strong smell, without any thing of the fine aromatic flavour of the Chian kind.

The Strasburg turpentine, as generally met with, is of middle consistence betwixt the two foregoing, more transparent and less tenacious than either; its colour a yellowish brown. Its smell is very fragrant, and more agreeable than that of any of the other turpentines except the Chian. In taste it is the bitterest, yet the least acrid.

Common turpentine is the coarsest and heaviest, in taste and smell the most disagreeable, of all the sorts. It is about the consistence of honey, of an opake, brownish white colour.

All these juices yield, in distillation with water, a very penetrating essential oil,—a brittle insipid resin remaining behind. With regard to their medical virtues, they promote urine, cleanse the urinary passages, and deterge internal ulcers in general; and at the same time, like other bitter hot substances, strengthen the tone of the vessels. They have an advantage above most other acrid diuretics, that they gently loosen the belly. Half an ounce or an ounce of Venice turpentine, triturated with the yolk of an egg, and diffused in water, may be employed in the form of an injection, as the most certain laxative in colics, and other cases of obstinate costiveness. They are principally recommended in gleets and the *fluor albus*. By some, also, they are considered as useful in calculous complaints: where these proceed from sand or gravel, formed into a mass by viscid mucous matter, the turpentines, by dissolving the mucus, promote the expulsion of the sand; but where a stone is formed they can do no service, and only ineffectually irritate and inflame the parts. In all cases accompanied with inflammation these juices prove hurtful, as this symptom is increased and not unfrequently occasioned by them. It is observable that the turpentines impart, soon after taking them, a violet smell to the urine; and have this effect, though applied only externally to the remote parts, particularly the Venice sort. The latter is accounted the most powerful as a diuretic and detergent, and the Chian and that of Strasburg as corroborants. The common turpentine, as being the most offensive, is rarely given internally,—its principal use being in plasters and ointments among farriers, and for the distillation of the oil, or spirit, as it is called.

The dose of the turpentine is from a scruple to a drachm and a half. They are most commodiously taken in the form of a bolus, or dissolved in watery liquors by means of the yolk of an egg or mucilage. Of the distilled oil a few drops are a sufficient dose. This is an extremely powerful, stimulating, detergent diuretic, and requires the utmost caution in its exhibition. When recourse is had to it, it should therefore be given at first in very small doses, and gradually increased.

Valerian, Wild.

This grows on open, dry, and mountainous places; and, taken up in autumn or winter, has much stronger sensible qualities than that collected in spring and summer. The root is a medicine of great use in nervous disorders, and is particularly serviceable in epilepsies proceeding from a debility of the nervous system. It is said, however, that in some cases of epilepsy, at the Edinburgh Dispensary, it was given to the extent of two ounces a day without effect. It has been employed with success in several other complaints termed nervous, particularly those produced by increased mobility and irritability of the nervous system. Bergius states its virtues to be antispasmodic, diaphoretic, emmenagogue, diuretic, and anthelmintic. Dr. Cullen says,—" Its antispasmodic powers are very well established, and I trust to many of the reports that have been given of its efficacy; and if it has sometimes failed, I have just now accounted for it *: adding only this, that it seems to me, in almost all cases, it should be given in larger doses than is commonly done. On this footing I have frequently found it useful in epileptic, hysteric, and other spasmodic affections." In dimness of sight Dr. Fordyce recommends it very highly. It should be given in doses from a scruple to two drachms or more: in infusion from one to two drachms. Its unpleasant flavour is most effectually concealed by the addition of a little mace.

Vine, Common.

The vine is a native of most of the temperate parts in the different quarters of the world, and is successfully cultivated in our hemisphere between the thirtieth and fifty-first degrees of latitude. By the difference of soil and climat numerous varieties of grapes are produced, affording wine extremely various in colour, taste, and other qualities. Th leaves and tendrils of the vine have an astringent taste, an were formerly used in diarrhœas, hæmorrhages, and othe disorders requiring cooling and styptic medicines, but hav for a long time been disused. The trunk of the tree, wounde in the spring, yields a limpid juice, which has been recommended in calculous disorders, and is said to be an excellent application to weak eyes and specks in the cornea. The unripe fruit has a rough sour taste: its expressed juice, called verjuice, was much esteemed by the ancients, but is now superseded by the juice of lemons. For external use, however, particularly in bruises and strains, verjuice continues to be employed, and is generally regarded as a very useful application.

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* From the disease depending upon different causes, and from the root being frequently employed in an improper condition.

The dried fruit constitutes an article of the Materia Medica, under the name of Uva Passa, of which the dispensatories formerly mentioned two kinds, *viz.* uvæ passæ majores et minores, or raisins and currants; the latter being a variety of the former. The manner in which they are prepared is by immersing them in a solution of alkaline salt, and soap ley made boiling hot; to which is added some olive oil, and a small quantity of common salt; and afterwards drying them in the shade. These fruits are used as agreeable, lubricating, acescent sweets, in pectoral decoctions; and for obtunding the acrimony of other medicines, and rendering them grateful to the palate and stomach.

From this tree is obtained wine, or the fermented juice of the grape, of which there is a great variety. By medical writers it has principally been confined to four sorts, as sufficient for the purposes of pharmacy: these are, white Spanish wine, or Mountain; Canary, or sack; Rhenish wine, and red Port.

It appears, from chemical investigation, that all wines consist chiefly of water, alcohol, a peculiar acid, the aërial acid, tartar, and an astringent, gummy, resinous matter, in which the colour of red wines resides, and which is expressed from the husks of the grapes. They differ from each other in the proportion of these ingredients, and particularly in that of the alcohol which they contain.

The qualities of wines depend not only upon the difference of the grapes, as containing more or less saccharine juice and of the acid matter which accompanies it, but also upon circumstances attending the process of fermentation. Thus, if the fermentation be incomplete, the wine may contain a portion of *must*, or unassimilated juice; or if it be too active, or too long protracted, it may be converted into vinegar.

New wines, when taken into the stomach, are liable to contract a strong degree of acescency, and thereby occasion much flatulence and acid eructations. Heartburn and violent pains of the stomach, from spasms, are also frequently produced; and the acid matter, by passing into the intestines, and mixing with the bile, is apt to occasion colics or excite diarrhœas. Sweet wines are likewise more disposed to become acescent in the stomach than others; but as the quantity of alcohol which they contain is more considerable than appears sensibly to the taste, their acescency is thereby in a great measure counteracted. Red port, and most of the red wines, have an astringent quality, by which they strengthen the stomach, and prove useful in restraining immoderate evacuations: on the contrary, those which are of an acid nature, as Rhenish, pass freely by the kidneys, and gently loosen the belly. But this, and perhaps all the thin or weak wines, though of an agreeable flavour, yet, as containing little alcohol, are readily disposed to become acetous in the stomach, and thereby to aggravate all arthritic and calculous complaints, as well as to produce the effects of new wine.

The general effects of wine are, to stimulate the stomach, exhilarate the spirits, warm the habit, quicken the circulation, promote perspiration, and, in large quantities, to prove intoxicating and powerfully sedative.

In many disorders wine is admitted to be of important service, and especially in fevers of a putrid tendency, in which it is found to raise the pulse, support the strength, promote a diaphoresis, and to resist putrefaction. In many cases it proves of more immediate advantage than the Peruvian bark. Delirium, which is the consequence of excessive irritability, and a defective state of nervous energy, is often entirely removed by the free use of wine. It is also a well-founded observation, that those who indulge in the use of wine are less subject to fevers, both of the malignant and intermittent kind. In the putrid sore throat, in the small-pox, when attended with great debility and symptoms of putrescency, in gangrenes, and in the plague, wine deserves to be considered as a principal remedy. In all cases of languors, likewise, and of great prostration of strength, wine is experienced to be a more grateful and efficacious cordial than can be furnished from the whole class of aromatics.

Another article connected with the present subject is vinegar, the best kind of which is made from wine. It is esteemed of great use in all inflammatory and putrid disorders, whether internal or external. In ardent, bilious fevers, pestilential, and other malignant distempers, it is recommended by Boerhaave as one of the most certain sudorifics. Weakness, fainting, vomiting, hysterical and hypochondriacal complaints, have been frequently relieved by vinegar applied to the mouth or nose, or received into the stomach. It is very efficacious in counteracting the effects of vegetable poisons, especially those of the narcotic kind. Inhaled in the form of vapour, it is found useful in the putrid sore throat: vinegar likewise has been given successfully in maniacal cases, and the symptoms usually consequent to the bite of a mad dog.

Wake-robin.

This plant, otherwise called arum, grows wild under hedges, and by sides of banks, in most parts of England. All the parts of the arum, in a recent state, are extremely pungent and acrimonious, but the root only is employed medicinally. If but lightly chewed, it excites an intolerable sensation of heat and pungency for some hours, accompanied with considerable thirst; and when cut in slices and applied to the skin, it has been known to produce blisters. This acrimony, however, is gradually lost by drying, and may be so far dissipated by the application of heat, as to leave the root a mild farinaceous aliment*. Arum is doubtless a very powerful stimulant, and, by promoting the secretions, may be advantageously employed in cachectic and chlorotic cases, in rheumatic affections, and various other complaints of phlegmatic and torpid constitutions; but particularly in a relaxed state of the stomach, occasioned by the prevalence of viscid mucus. When the root is given in powder, great care should be taken that it be young and newly dried. In such a state, it may be used in the dose of a scruple or more twice a day; but in rheumatisms, and other disorders requiring the full effect of this medicine, the root should be given in a recent state; and, to cover the intolerable pungency it discovers on the tongue, Dr. Lewis advises to administer it in the form of emulsion, with gum-arabic, and spermaceti, increasing the dose from ten grains to upwards of a scruple three or four times a day. In this way, it generally occasions a sensation of slight warmth about the stomach, and afterwards in the remoter parts, manifestly promotes perspiration, and frequently produces a plentiful sweat.

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* In this state it has been made into a wholesome bread. It has also been prepared as starch. The root, dried and powdered, is used by the French to wash the skin with, and is sold at a high price, under the name of *Cypress-powder*, which is a good and innocent cosmetic.

Water-Cresses.

This plant grows wild in rivulets, and the clearer standing-waters; its leaves remain green all the year, but are in greatest perfection in the spring. They have a pungent smell, when rubbed betwixt the fingers, and an acrid taste, similar to that of scurvy-grass, but weaker. In respect of medicinal qualities, they are ranked among the milder aperient antiscorbutics. Hoffman entertained a high opinion of this plant, and has recommended it as of singular efficacy for accelerating the circulation, strengthening the viscera, opening obstructions of the glands, promoting the fluid secretions, and purifying the blood and humours. For these purposes the expressed juice, which contains the peculiar taste and pungency of the herb, may be taken in doses of an ounce or two, and continued for a considerable time. It is observed, that the juice of Seville oranges or other acids, when joined to that of water-cresses, scurvy-grass, and plants of the same nature, renders their operation more successful, by determining them more powerfully to an acescent fermentation.

The water-cresses are frequently eaten as sallad, and taken in this way daily for a considerable time, under the idea of their being a good corrector of the blood and humours. The garden-cresses possess the same virtues, but in a much weaker degree.

Wolfs'bane.

This plant, the aconitum of the ancients, is a native of the mountainous and woody parts of Germany, France, and Switzerland; but since the time of Gerard, it has been cultivated for ornament in most of the flower-gardens in this country. Wolfs'bane, when first gathered, has a strong smell, but no peculiar taste. Every part of the fresh plant is strongly poisonous, but the root is unquestionably the most powerful, and when first chewed imparts a slight sensation of acrimony, but afterwards an insensibility, or stupor at the apex or point of the tongue; and a pungent heat of the lips, gums, palate, and fauces, is perceived, followed with a general tremor and sensation of chillness. Though the plant loses much of its power by drying, yet Stoerck observes that, when powdered and put upon the tongue, it excites a durable sense of heat, and sharp, wandering pains, but without redness or inflammation. The juice applied to a wound seemed to affect the whole nervous system; even by keeping it long in the hand, or in the bosom, we are told that unpleasant symptoms have been produced. That the ancients considered the aconitum as the most destructive of vegetable productions, appears from their fanciful derivation of its origin, which they ascribed to the invention of Hecate, or the foam of Cerberus. The deleterious effects of this plant, like those of most vegetable poisons, are produced by its immediate action upon the nervous energy. It occasions giddiness, convulsions, violent purging both upwards and downwards, faintings, cold sweats, and even death itself.

Dr. Stoerck appears to be the first who gave the wolfs'-bane internally; and since his experiments were published, in 1762, it has been generally and often successfully employed in Germany, and the northern parts of Europe, particularly as a remedy for obstinate rheumatisms; and many cases are related where this disease was of several years duration, and had withstood the efficacy of other powerful medicines, as mercury, opium, antimony, cicuta, &c. yet in a short time were entirely cured by the aconitum. Instances are also given of its good effects in gout, scrofulous swellings, venereal nodes, decays or loss of sight, intermittent fevers, &c.

Wolfs'bane has been generally administered in extract, or inspissated juice. Like all virulent medicines, it should be at first exhibited in small doses. Stoerck recommends two grains of the extract to be rubbed into a powder, with two drachms of sugar, and to begin with ten grains of this powder two or three times a day. We find, however, that the extract is often given from one grain to ten for a dose, and Stoll, Schenckbecher, and others, increased this quantity very considerably. Instead of the extract, a tincture has been made of the dried leaves, macerated in six times their weight of spirits of wine, and forty drops given for a dose.

Worm-seed.

This is the top of the santonicum, a plant of the wormwood or mugwort kind, growing in the Levant. Wormseed is small, light, oval, composed as it were of a number of thin membranous coats, of a yellowish green colour, with a cast of brown; easily friable on being rubbed between the fingers, into a fine, chaffy kind of substance. It has a moderately strong and not agreeable smell, somewhat of the wormwood kind; and a very bitter, subacrid taste.

The seeds are esteemed to be stomachic, emmenagogue, and anthelmintic; but it is for the last-mentioned power in particular that they are usually administered; and from their efficacy in this way they obtained the name of wormseed. Their quality of destroying worms has been ascribed solely to their bitterness; but it appears from Baglivi, that worms immersed in a strong infusion of these seeds were killed in five, and according to Redi, in seven or eight hours, while in the infusion of worm-wood, and in that of agaric, the worms continued to live more than thirty hours; and hence it has been inferred that their vermifuge effects could not wholly depend upon the bitterness of this seed. To adults the dose in substance is from one to two drachms twice a-day. Lewis thinks that the spirituous extract is the most eligible preparation of the santonicum for the purposes of an anthelmintic.

Wormwood, Common.

The leaves of this sort of wormwood are divided into roundish segments, of a dull green colour above, and whitish underneath. It grows wild in several parts of England; but about London large quantities are cultivated for medicinal use. It flowers in June and July; and, after having ripened its seeds, dies down to the ground, except a tuft of the lower leaves, which generally abides the winter.

The leaves of wormwood have a strong, disagreeable smell; their taste is nauseous, and so intensely bitter as to be proverbial. The flowers are more aromatic and less bitter than the leaves; and the roots discover an aromatic warmth without any bitterness.

Wormwood was formerly much used as a bitter, against weakness of the stomach, and dyspeptic complaints, in medicated wines and ales. At present it is rarely employed in these intentions, on account of the ill relish and offensive smell with which it is accompanied: but from these it may be in part freed by keeping, and totally by long coction, the bitter remaining entire. An extract made by boiling the leaves in a large quantity of water, and evaporating the liqnor with a strong fire, proves a bitter sufficiently grateful, and void of the nauseous flavour of the herb.

This species of wormwood may be considered as the principa o" the herbaceous bitters; and though it is now chiefly employed as a tonic and stomachic, yet we are told of its good effects in a great variety of diseases, such as intermittent fevers, hypochondriac disorders, obstructions of the liver and spleen, gout, the stone, the scurvy, dropsy, worms, &c. Lindestolphe has asserted, that a continued use of this herb is extremely hurtful to the nervous system, from its narcotic and debilitating effects, which he experienced upon himself; observing also, that he conld never taste the extract or essence of wormwood without being immediately affected with head-ach and inflammation of the eyes; and it is added both by him and his commentator, Stenzelius, that this herb produced similar effects on many others. These narcotic effects of wormwood have, however, been attributed to a peculiar idiosyncrasy, as numerous instances have occnrred in which this plant produced a contrary effect, though taken daily for the space of six months. Dr. Cullen, speaking on this subject, says, "I have not had an opportunity of making proper experiments; but to me, with Bergius and Gleditsch, the odour of wormwood seems temulentans, that is, giving some confusion of head: and formerly, when it was a fashion with some people in this country to drink purl, that is, ale, in which wormwood is infused, it was commonly alleged to be more intoxicating than other ales. This effect is improperly supposed to be owing to its volatile parts: but I am more ready to admit the general doctrine of a narcotic power; and I believe, from several considerations, particularly from the history of the Portland powder, that there is in every bitter, when largely employed, a power of destroying the sensibility and irritability of the nervous power.

Externally wormwood is used in discutient and antiseptic fomentations. This plant may be taken in powder, but it is more commonly preferred in infusion. The Edinburgh Pharmacopœia directs a tincture of the flowers, which is, in the opinion of Dr. Cullen, a light and agreeable bitter, and at the same time a strong impregnation of the wormwood.

Yarrow.

This plant is frequent about the sides of fields, and on dry commons, maintaining its flowers during the greater part of summer. The leaves have a rough, bitterish taste, and a faint, aromatic smell. The virtues of the millefolium are those of a mild astringent, for which it was held in esteem among the ancient Greek writers. Instances of its good effects in hæmorrhagic complaints are likewise mentioned by several eminent German physicians, particularly by Stahl and Hoffman, who also recommended it as an efficacious remedy in various other diseases. The former found it not only an astringent, but also a powerful tonic, antispasmodic, and sedative. In proof of the last-mentioned quality, we find that in some parts of Sweden the millefolium is used in making beer, for the purpose of rendering it more intoxicating: and Sparrman has observed, that it is employed with the same intention in some parts of Africa. The leaves and flowers of milfoil are both directed for medicinal use in the Edinburgh Pharmacopœia. In the present practice, however, this plant is not regarded in any degree conformable to its reputed qualities and effects.

GENERAL RULES

FOR THE

COLLECTION AND PREPARATION OF SIMPLES.

ROOTS.

ANNUAL roots ought to be taken up before they shoot out stalks or flowers: *biennial roots,* chiefly in the autumn of the same year in which the seeds are sown; the *perennial,* when the leaves fall off, and therefore generally in the autumn. After washing them clean from dirt, and cutting off the rotten and decayed fibres, they are to be hung up in a covered airy place, till sufficiently dried. The thicker roots require to be slit longitudinally, or cut transversely into thin slices. Such roots as lose their virtues by exsiccation (or are desired to be preserved in a fresh state, for the greater conveniency of using them in certain forms) are to be kept buried in dry sand.

There are two seasons in which the biennial and perennial roots are reckoned the most vigorous, viz. the autumn and spring; or rather the time when the stalks or leaves have fallen off, and that in which the vegetation is just going to revive, or soon after it has begun. These seasons are found to differ considerably in different plants.

The generality of roots appear to be most efficacious in the spring: but as at this season they are also the most juicy, and consequently shrivel much in drying, and are rather more difficultly preserved, it is commonly thought most advisable to take them up in autumn. No rule, however, can be given, that shall obtain universally: for *arum-root* taken up even in the middle of summer is equally active as at any other season: while angelica-root, in the summer, is in no degree comparable, in point of activity, to what it is in the autumn, spring, or winter.

HERBS AND LEAVES.

Herbs are to be gathered when the leaves have come to their full growth, before the flowers unfold; but of some plants the flowery tops are preferred. They are to be dried in the same manner as roots.

For the gathering of leaves, perhaps no universal rule can be laid down, any more than for roots; for though most herbs appear to be in their greatest vigour about the time of their flowering, or a little before, there are some in which the medicinal parts are more abundant at an earlier period. Thus mallow and marsh mallow leaves are most mucilaginous when young, and by the time of flowering approach more to a woody nature. A difference of the same kind is more remarkable in the leaves of certain trees and shrubs.

Most writers on pharmacy have directed that herbs should be dried in the shade. It is not, however, to be understood by this rule, that they are to be excluded from the sun's heat, but from the strong action of the solar rays, by which last their colours are very liable to be altered or destroyed, much more than those of the roots.

The method of slowly drying herbs in a cool place is far from being of any advantage. Both their colours and virtues are preserved in greatest perfection, when they are dried hastily, by a heat of common fire as great as that which the sun can impart. The very succulent or juicy herbs, in particular, require to be dried by heat, being otherwise liable to turn black.

Odoriferous herbs, dried by the fire till they become friable, discover, indeed, in this arid state, very little smell; not that the odorous matter is dissipated; but on account of its not being communicated from the perfectly dry subject to dry air; for as soon as an aqueous vehicle is supplied, whether by infusing the plant in water, or by exposing it for a little time to moist air, the odorous parts begin to be extracted, and discover themselves in their full force.

FLOWERS.

Flowers ought to be gathered when moderately expanded, on a clear dry day, before noon. Red roses, however, are taken before they open, and the white heels clipped off and thrown away.

The quick drying, above recommended for the leaves of plants, is more particularly proper for flowers; in most of which, both the colour and smell are more perishable than in leaves, and more subject to be impaired by slow exsiccation.

It is not unworthy of being observed, that the virtues of flowers are confined to different parts of the flower in different plants. Not to mention saffron, which is a singular production, the active part of chamomile flowers is the yellowish disk, or button in the middle; that of lilies, roses, clove July-flowers, violets, and many others, the *petala* or flower-leaves; while rosemary has little virtue in any of these parts, the fragrance of this plant residing chiefly in the cups.

SEEDS AND FRUITS.

Seeds should be collected when ripe, and beginning to grow dry, before they fall off spontaneously. Fruits also are to be gathered when ripe, unless they are ordered to be otherwise.

Of the fruits collected for medicinal use, very few are employed in an unripe state. The principal is the sloe, the virtue of which, as a mild astringent, is greatly diminished by maturation.

The rule for collecting seeds is more general than any of the others; all the officinal seeds being in their greatest perfection at the time of their maturity. As seeds contain little watery moisture, they require no other warmth for drying them than that of the temperate air in autumn. Such as abound with a gross expressible oil, as those commonly called the cold seeds, should never be exposed to any considerable heat; for this would hasten the rancidity, which, however carefully kept, they are very liable to contract. Seeds are best preserved in their natural husks, or coverings, which should be separated only at the time of using; this part serving to defend the seed from being injured by the air.

WOODS AND BARKS.

The most proper season for the felling of woods, or shaving off their barks, is generally the winter: but there are so few of those of our own country preserved for medicinal use, that it is here unnecessary to say any thing of them. It may, however, be doubted, whether barks be not generally more replete with a medicinal matter in the summer and spring than in winter. The barks of many trees are, in summer, so much loaded with resin and gum, as to burst spontaneously, and discharge the redundant quantity. It is said that the bark of the oak answers best for the tanners, at the time of the rising of the sap in the spring; and as its use in tanning depends on the same astringent quality for which it is used in medicine, it should seem to be best fitted for medicinal purposes also in the spring. It may farther be observed, that it is in the latter season that barks in general are most conveniently peeled off.

MEDICINAL PREPARATIONS.

BALSAMS.

BY this denomination is not understood the natural balsams, such as those of Gilead, Peru, &c. but certain compositions which have received the name, from an opinion of their being endowed with balsamic qualities These reputed balsams were formerly very numerous, but are now reduced to a small number, which consists of the following:

Anodyne Balsam, commonly called *Bate's Balsam.*

Take of Spanish soap, one ounce; crude opium, two drachms; essential oil of rosemary, one drachm; rectified spirit of wine, half a pint. Digest them together in a gentle heat for three days; then strain off the liquor, and add to it half an ounce of camphor.

This balsam, as intimated by its title, is designed to allay pain. It is useful in strains, bruises, and rheumatic complaints, when not attended with inflammation. It ought to be rubbed with a warm hand on the part affected; or a linen rag moistened with it may be applied to the part, and renewed every two or three hours, till the pain abates. If the opium be left out, it will be the *saponaceous balsam,* otherwise named *oppodeldoch.*

Locatelli's Balsam.

Take of olive oil, one pint; Strasburg turpentine and yellow wax, of each half a pound; red saunders, six drachms. Melt the wax with some part of the oil over a gentle fire; then add the remaining part of the oil and the turpentine; afterwards the saunders, previously reduced to a powder, and continue stirring them together till the balsam is cold.

This balsam is recommended in the dysentery, erosions of the intestines, internal bruises, and in complaints of the breast proceeding from sharp humours. Outwardly it is employed in the cure of wounds and ulcers. When taken internally, the dose is from two scruples to two drachms.

Vulnerary Balsam.

Take of the resinous juice called benzoin, powdered, three ounces; balsam of Peru, two ounces; hepatic aloes, powdered, half an ounce; rectified spirit of wine, two pints. Digest them in a gentle heat for three days, and then strain the balsam.

This medicine is applied externally to heal wounds and bruises; and is used internally against coughs, asthmas, and other complaints of the breast; besides which, it is said to have been given with advantage in the colic, and for healing internal ulcers, &c.

The dose is from twenty to sixty drops.

This has long been celebrated under the different names of the Persian balsam, Wade's balsam, Friar's balsam, Jesuit's drops, Turlington's drops, &c. But though the encomiums bestowed upon it may justly be deemed extravagant, it is a medicine not destitute of utility.

BOLUSES.

A bolus is very little different from an electuary, only that it is made for a single dose, and is rather of a firmer consistence, but such as to be easily swallowed. As it is intended for immediate use, it admits into its composition volatile salts, and other ingredients, the virtues of which are liable to perish in a little time; and it is a form well calculated for powerful medicines, which require their dose to be adjusted with suitable precision. Boluses are generally composed of powders, with a proper quantity of syrup, conserve, or mucilage. The lighter powders are commonly made up with syrup. A scruple, or twenty-six grains of the powder, with as much syrup as will bring it to a due consistence, makes a bolus sufficiently large. The more ponderous powders, such as the mercurial, are commonly made up with conserve; but both the light and ponderous powders may be conveniently made up with mucilage, which increases the bulk less than the other additions, and occasions the bolus to pass down more freely.

Astringent Bolus.

Take of alum, in powder, fifteen grains; gum-kino, five grains; simple syrup, a sufficient quantity to make a bolus.

This bolus, given every four or five hours, proves an efficacious remedy in an excessive flow of the *menses*, and other discharges of blood, proceeding from relaxation, and which require to be speedily restrained.

Diaphoretic Bolus.

Take of gum-guaiacum, in powder, ten grains; crude sal ammoniac, and flowers of sulphur, of each one scruple; simple syrup, a sufficient quantity to make the ingredients into a proper consistence.

This bolus may be taken with advantage twice a day, in rheumatic complaints, and disorders affecting the skin.

Pectoral Bolus.

Take of spermaceti, fifteen grains; gum-ammoniac, ten grains; salt of hartshorn, five grains; simple syrup, as much as is sufficient to make them into a bolus.

In colds and coughs of long standing, asthmas, and beginning consumptions, this bolus may be given with success; but it is generally proper that the use of it should be preceded by bleeding.

A Purging Bolus.

Take of rhubarb, in powder, twenty-five grains; calomel, five grains; simple syrup, a sufficient quantity to make a bolus.

This is particularly serviceable for expelling worms. If a stronger purge be necessary, as in a dropsy, half a drachm of jalap may be substituted for the rhubarb.

CATAPLASMS AND SINAPISMS.

Cataplasms are chiefly intended to act as discutients, or to promote suppuration. Their place may in general be supplied by a poultice; but as they may prove serviceable in some cases, it is proper to give an example of each kind.

Discutient Cataplasm.

Take of barley meal, six ounces; fresh hemlock, well bruised, two ounces; crude sal ammoniac, half an ounce; vinegar, a sufficient quantity. Boil the meal and the hemlock leaves for a little time in the vinegar; and then mix with them the sal ammoniac.

Ripening Cataplasm.

Take of white lily, or marsh-mallow root, four ounces; fat figs, an ounce; raw onions, bruised, six drachms; galbanum, half an ounce; yellow basilicon ointment, one ounce; linseed meal, as much as is sufficient. Boil the roots and figs together in a sufficient quantity of water: then bruise, and add to them the other ingredients; previously dissolving the galbanum with the yolk of an egg. In this manner the whole mass is to be made into a soft cataplasm.

Such is the form of a ripening cataplasm elaborately made; but the purpose may be equally well answered by a poultice of bread and milk, to which is added a portion of onions either boiled or raw, and some oil or fresh butter to soften it.

Sinapisms.

Sinapisms act as stimulants, and with this intention may be applied to different parts of the body. In a palsy, or decay of any part, they are employed to solicit the return of the blood and animal spirits into the vessels. With a similar view they are applied to the feet, when the gout has seized the head or stomach. They are also frequently applied to the patient's soles in the low state of fevers, for the purpose of raising the pulse, and relieving the head. Besides the several uses now mentioned, they are serviceable in deep-seated pains, such as the sciatica. They often inflame the part, and raise blisters, though not so perfectly as the cantharides or Spanish flies; but this not being the effect which they are intended to produce, the use of them should only be continued till the parts have become red, and preserve that colour when pressed with the finger.

A sinapism is nothing more than a poultice made with vinegar instead of milk, and rendered stimulating by the addition of warm materials; such as mustard, horse-radish, or garlic.

To make a common sinapism, take crumb of bread, and mustard-seed, in powder, of each equal quantities; strong vinegar as much as is sufficient. Mix them so as to make a poultice. It may be rendered more stimulating, if necessary, by the addition of an eighth part of garlic, bruised.

CLYSTERS.

Whatever prejudice may be entertained against clysters, they are of extensive utility in the cure of various diseases. They not only serve to evacuate the contents of the belly, but also to convey into the system very active medicines, which in some cases will not sit upon the stomach, and to introduce a supply of aliment, when patients are incapable of swallowing. By acting likewise in the way of fomentation, they prove highly serviceable in inflammations of the bladder, and the lower intestines, &c.

Emollient Clyster.

Take of linseed tea and new milk, each six ounces. Mix them.

If to this there be added a tea-spoonful of laudanum, it will supply the place of the *anodyne clyster*.

Laxative Clyster.

Take of milk and water, each six ounces; sweet oil or fresh butter, and brown sugar, of each two ounces; common salt, one spoonful. Mix them.

If it be desired more purgative, another spoonful of common salt may be added.

Carminative Clyster.

Take of chamomile-flowers, an ounce; anise-seeds, or the seeds of sweet fennel, half an ounce. Boil them in a pint and a half of water to one pint.

In hysteric and hypochondriac complaints, as well as the tympany, this may be administered with great advantage.

Starch Clyster.

Take of jelly of starch, four ounces; linseed oil, half an ounce. Warm the jelly over a gentle fire, and afterwards mix it with the oil. In the dysentery, or bloody flux, this clyster, administered after every loose stool, will blunt the sharpness of the corroding humours, and conduce to heal the ulcerated intestines. With the addition of forty or fifty drops of laudanum, it will act as an astringent clyster.

Turpentine Clyster.

Take of a decoction of chamomile-flowers, ten ounces; Venice turpentine, dissolved in the yolk of an egg, half an ounce; sweet oil, one ounce. Mix them.

This clyster is useful in obstructions of the urinary passages, and in pains of the bowels, occasioned by gravel.

COLLYRIA, OR EYE-WATERS.

Extremely numerous are the waters recommended by different persons for the cure of sore eyes, but, in general, the basis of them is alum, vitriol, or lead; the effects of which are to brace the parts, and thereby remove the complaints proceeding from relaxation.

Collyrium of Alum.

Take of alum, half a drachm; agitate it well together with the white of an egg.

This collyrium, which is made according to the prescription of Riverius, is used in inflammation of the eyes, to allay heat, and restrain the flux of humours. In applying it to the eyes, it is to be spread upon linen; but should not be kept on above three or four hours at a time.

Collyrium of Vitriol.

Take of white vitriol, half a drachm; rose-water, six ounces. Dissolve the vitriol in the water, and filter the liquor.

This may justly be regarded as one of the most efficacious remedies in the class of the collyria. It is an excellent application in weak, watery, and inflamed eyes; though, where the inflammation is of an obstinate nature, it will be necessary to assist the medicine by the conjunct resources of bleeding and blistering.

When a strong astringent is judged proper, the quantity of vitriol may be increased to double or triple the proportion above mentioned.

Collyrium of Lead.

Take of acetated cerusse or sugar of lead, and crude sal ammoniac, each four grains; and dissolve them in eight ounces of common water.

When the eyes are much pained, forty or fifty drops of laudanum may be occasionally added to this collyrium.

Similar to this in its effects, is the collyrium of lead recommended by Goulard; which is made by putting twenty-five drops of his *extract of lead* to eight ounces of water, and adding a tea-spoonful of brandy.

Even common water and brandy, without any other addition, is a useful application to weak eyes. It may be employed in the proportion of an ounce of the latter to five or six ounces of the former; and the eyes be bathed with it night and morning.

CONSERVES.

Conserves are made of fresh vegetables and sugar, beaten together into an uniform mass. In preparing these compositions, the leaves of vegetables must be freed from their stalks, the flowers from their cups, and the yellow part of orange-peel taken off with a rasp. They are then to be pounded in a marble mortar, with a wooden pestle, into a smooth mass; after which, thrice their weight of fine sugar is commonly added by degrees, and the beating continued till they are uniformly mixed. But the conserve will be better, as well as keep longer, if only twice its weight of sugar be added.

Conserve of Red Roses.

Take a pound of red rose buds, cleared of their heels; beat them well in a mortar; adding by degrees two pounds of double-refined sugar.

The conserve of roses is one of the most agreeable and useful preparations belonging to this class. Half an ounce, or an ounce of it, dissolved in warm milk, is an excellent medicine in consumptive coughs and spitting of blood.

In the same manner are prepared the conserves of orange-peel, rosemary-flowers, leaves of wood-sorrel, &c.

DECOCTIONS.

Though most vegetables yield their virtues to water, as well by infusion as decoction, yet the latter is often necessary, as it saves time, and performs in a few minutes what the other would require hours, and sometimes days to effect. Odorous substances, however, and those in general the virtues of which depend on their volatile parts, are unfit for this treatment. In some cases, nevertheless, this inconvenience may be obviated, by infusing such materials in the decoction.

Decoction of Althæa.

Take of the roots of marsh-mallows, moderately dried, three ounces; raisins of the sun, one ounce; water, three pints. Boil the ingredients in the water till one third of it be consumed; afterwards strain the decoction, and let it stand for some time to settle. If the roots be thoroughly dried, they must be boiled till one half of the water is consumed.

In coughs, and sharp defluxions upon the lungs, and in pains arising from gravel in the urinary passages, this decoction may be used for ordinary drink.

The Common Decoction.

Take of chamomile-flowers, one ounce; elder-flowers, and sweet fennel seeds, of each half an ounce; water, two quarts. Boil them for a little, and then strain the decoction.

This decoction is chiefly intended as the basis of clysters, to which other ingredients may be occasionally added. It may likewise be employed as a common fomentation; adding to it spirit of wine, and other things, in such quantity as may be judged suitable to the case of the patient.

Decoction of Barley, or Barley-water.

Take of pearl barley, washed from the impurities with cold water, two ounces. First boil it a little with about half a pint of fresh water; then throwing away this, add to the barley four pints of boiling water, and boil it till half the water be wasted; after which strain it.

This is the liquor so often mentioned in the course of th present work, to be drunk freely as a diluter, in fevers an other disorders.

Decoction of the Peruvian Bark.

Boil an ounce of the bark, grossly powdered, in a pin and a half of water to one pint; then strain the decoction. This decoction will be rendered both more agreeabl and efficacious, by adding to it a tea-spoonful of the wea spirit of vitriol.

Compound Decoction of the Peruvian Bark.

Take of Peruvian bark, and Virginian snake-root, grossly powdered, each three drachms. Boil them in a pint o water to one half; and to the strained liquor add an ounce and a half of aromatic water.

This decoction is recommended towards the decline o malignant fevers, when the pulse is low, the voice weak, and the head affected with a stupor or insensibility, bu with little delirium.

The dose is four table-spoonfuls every four or six hours.

Decoction of Logwood.

Take of the chips of logwood, three ounces; water, four pints: boil them till one half of the liquor be wasted. It will be improved in taste by adding to it four ounces o simple cinnamon water.

In fluxes of the belly, a tea-cupful of this decoction may be taken, as a moderate and safe astringent, three or four times a day.

Decoction of Sarsaparilla.

Take of fresh sarsaparilla root, sliced and bruised, two ounces; shavings of guaiacum wood, one ounce. Boil them over a slow fire in three quarts of water to one; adding, towards the end, two drachms of liquorice: then strain the decoction.

This decoction may be used with great advantage in disorders of the skin, as well as to assist the operation of mercurial alteratives. It may be taken from a pint and a half to two quarts in the day.

Decoction of Seneka.

Take of seneka rattle-snake root, one ounce; water, a pint and a half. Boil it to one pint, and strain.

This decoction is recommended in the pleurisy, rheumatism, dropsy, and some obstinate cutaneous disorders.

The dose is two ounces, three or four times a day, or oftener, if the stomach will bear it.

White Decoction.

Take of the purest chalk, in powder, two ounces; gum-arabic, half an ounce; water, three pints. Boil to one quart, and strain the decoction.

This is a proper drink in acute diseases, attended with a looseness, and where acidities prevail in the stomach or bowels. It is particularly well adapted for children, when subject to such disorders in the stomach, and to persons troubled with the heart-burn. It may be sweetened with sugar, as it is used; and will be rendered more pleasant, as well as more efficacious, by the addition of two or three ounces of simple cinnamon water.

The place of this decoction, and also of the chalk-julep, may be supplied by an ounce of powdered chalk, mixed with two pints of water.

Decoction of Burdock-root.

Take of burdock-root, half an ounce: boil it in a pint and a half of water to one pint, and strain the liquor.

This decoction is used as a diuretic and sweetener of the blood, in scorbutic and rheumatic complaints. It is drunk in the quantity of a pint a day.

Decoction of Mezereon.

Take of the bark of the root of mezereon, two drachms: boil it in three pints of water to two pints; adding towards the end of the boiling, half an ounce of bruised liquorice.

From half a gill to a gill is taken four times a day, for curing the remains of the venereal disease, and obstinate ulcerations in different parts of the body.

DRAUGHTS.

This is a proper form for exhibiting such medicines as are intended to operate immediately, and which do not require to be frequently repeated, such as vomits, purg and a few others, which are to be taken at one dos Where a medicine must be used for some length of tim it is better to make up a larger quantity at once, whic saves both trouble and expence.

Anodyne Draught.

Take of laudanum, twenty-five drops; simple cinnamo water, an ounce; common syrup, two drachms; or, in plac of it, a bit of sugar. Mix them.

In great restlessness, or excessive pain, where bleedin is not necessary, this composing draught may be taken an repeated occasionally.

Sweating Draught.

Take of spirit of Mindererus, two ounces; salt of harts-horn, five grains; simple cinnamon water, and syrup o poppies, of each half an ounce. Make them into a draught

This draught is of service in recent colds, and rheumatic complaints. But to promote its effects, the patient ough to drink freely of warm water-gruel, or some other diluting liquor.

ELECTUARIES.

These are generally composed of the lighter powders, mixed with syrup, conserve, mucilage, or honey, into such a consistence that the powders may neither separate by keeping, nor the mass prove too stiff for swallowing. They receive chiefly the milder alterative medicines, and such as are not ungrateful to the palate.

Astringent electuaries, and such as have pulp of fruits in their composition, should only be prepared in small quantities at a time; for astringent medicines lose much of their virtues by being kept in this form, and the pulp of fruits is apt to ferment. Where the common syrups are employed, it is proper to add likewise a little conserve, to prevent the compound from drying too soon; which is particularly the case with respect to electuaries made of the Peruvian-bark.

Lenitive Electuary, or Electuary of Senna.

Take of senna, in fine powder, eight ounces; coriander-seed, also in powder, four ounces; pulp of tamarinds and of French prunes, each a pound. Mix the pulps and powders together, with a sufficient quantity of simple syrup; reduce the whole into an electuary.

A tea-spoonful of this electuary, taken two or three times a day, generally proves an agreeable laxative. It likewise serves as a convenient vehicle for stronger purgatives.

Electuary of the Bark.

Take of Peruvian-bark, in powder, two ounces; crude sal ammoniac, two drachms; syrup of ginger, enough to make an electuary.

This is a convenient form for giving the bark in intermittent fevers or agues. A large tea-spoonful of it may be taken every two or three hours, according as the intermissions are longer or shorter.

Electuary for the Dysentery.

Take of the japonic confection, two ounces; Locatelli's balsam, one ounce; rhubarb, in powder, half an ounce; syrup of marsh-mallows, enough to make an electuary.

It being often dangerous in dysenteries to give opiates and astringents, without interposing purgatives, these three classes of medicines are conveniently joined in this composition, which is thereby rendered equally useful and safe.

The dose is about the bulk of a nutmeg twice or thrice a day, according as the symptoms and constitution of the patient may require.

Electuary for the Gonorrhœa.

Take of lenitive electuary, three ounces; jalap and rhubarb, in powder, of each two drachms; nitre, half an ounce; simple syrup, enough to make an electuary.

This is a useful laxative during the inflammation and tension of the urinary passages, which accompany a virulent gonorrhœa.

The dose is about the bulk of a nutmeg, two or three times a day; more or less, as may be necessary to keep the body gently open.

When the inflammation is gone off, the following electuary may be used:

Take of lenitive electuary, two ounces; balsam of copaiba, otherwise named capivi, one ounce; gum-guaiacum and rhubarb, in powder, of each two drach simple syrup, enough to make an electuary.

This may be taken in the same manner as the prec ding.

Electuary for the Piles.

Take of lenitive electuary, one ounce; flowers of su phur, half an ounce; simple syrup, enough to make a electuary.

A tea-spoonful of this may be taken three or four time a day.

EMULSIONS.

These are mixtures of oily, resinous, and similar substances, with water, in a liquid form, of a white colour resembling milk, and hence called emulsions, or milks. They are generally prepared by grinding the oily seeds of plants, or kernels of fruits, with common water, or any agreeable simple distilled water. In this process, the oil of the subject is, by the mediation of the other matter, united with the water; on which account, they partake of the emollient virtue of pure oil. They have, besides, this advantage, that they are agreeable to the palate, and not apt to turn rancid or acrimonious by the heat of the body, as may be the case with pure oils in some inflammatory diseases. Emulsions, exclusive of their own quality as medicines, are good vehicles for certain substances, which cannot otherwise be taken so conveniently in a liquid form. Thus camphor, triturated with almonds, readily unites with water into an emulsion. In the same way also, oils, balsams, and resins, are rendered miscible with water by the intervention of mucilages.

Common Emulsion.

Take of sweet almonds, an ounce; water, two pints.

Let the almonds be blanched, and beat up in a marble mortar; gradually pouring upon them the water, so as to make an emulsion. Afterwards let it be strained.

Arabic Emulsion.

This is made exactly in the same manner as the preceding; adding to the almonds, while beating, two ounces of the mucilage of gum-arabic.

Where soft and cooling liquors are required, these emulsions may be used as ordinary drink.

Camphorated Emulsion.

Take of camphor, half a drachm; sweet almonds, half a dozen; loaf sugar, half an ounce; mint-water, eight ounces. Grind the camphor and almonds well together in a stone mortar, and add by degrees the mint-water: then strain the liquor, and dissolve in it the sugar.

In fevers, and other disorders which require the use of camphor, a table-spoonful of this emulsion may be taken every two or three hours.

Emulsion of Gum-Ammoniac.

Take of gum-ammoniac, two drachms; water, eight ounces. Grind the gum with the water poured gradually upon it, till it is dissolved.

This emulsion is used for attenuating tough phlegm, and promoting expectoration. In obstinate coughs, two ounces of the syrup of poppies may be added to it with advantage. The dose is two table-spoonfuls three or four times a day.

FOMENTATIONS.

Fomentations are calculated either to ease pain, by taking off tension and spasm; or to restore the tone and vigour of parts which have become relaxed. Both these intentions may generally be answered by very simple means; the former, by the application of warm water alone, and the latter by that of cold water. With a view, however, to increase the effect of the water, it is a usual practice to impregnate it with other substances, the qualities of which are conducive to the purpose intended. These may be distinguished into anodynes, aromatics, astringents, &c.

Anodyne Fomentation.

Take of white poppy-heads, two ounces; elder-flowers, half an ounce; water, three pints. Boil in an open vessel till one pint is evaporated, and strain out the liquor.

This fomentation, as its title expresses, is used for relieving acute pain.

Common Fomentation.

Take tops of wormwood, and chamomile flowers, dried, of each two ounces; water, two quarts. Boil them for a very little, and pour off the liquor.

A portion of brandy may occasionally be added to this fomentation, in such a quantity as the circumstances of the case shall require.

Strengthening Fomentation.

Take of oak bark, one ounce; alum, half an ounce; smith's forge-water, three pints. Boil the water with the bark till one third is consumed; then strain the decoction, and dissolve in it the alum.

This is generally employed as a fomentation to weak parts; but may also be used internally, in the quantity of four table-spoonfuls three or four times a day.

GARGARISMS, OR GARGLES.

This class of medicines, though confined to local and subordinate operation, are far from being unworthy of a place in the province of physic. They are peculiarly useful in fevers and sore throats, by alleviating the dryness of the mouth, and removing the foulness of the tongue and fauces, &c. They have likewise the advantage of being easily prepared. A very useful gargle for cleansing the mouth may be made with a little barley-water and honey, to which is added as much vinegar as will give them an agreeable sharpness.

Gargles act most powerfully when injected with a syringe.

Common Gargle.

Take of rose water, six ounces; syrup of clove, July-flowers, half an ounce; spirit of vitriol, a sufficient quantity to give it an agreeable sharpness. Mix them.

This gargle, besides cleansing the tongue and fauces, acts as a gentle repellent, and will sometimes remove a slight quinsey.

Detergent Gargle.

Take of the emollient gargle, a pint; tincture of myrrh, an ounce; honey, two ounces. Mix them. This gargle is well adapted for cleansing exulcerations, and promoting the excretion of tough saliva from the glands of the mouth.

Emollient Gargle.

Take an ounce of marsh-mallow roots, and two or three figs: boil them in a quart of water till near one half of it be consumed; then strain out the liquor.

This gargle is of service in fevers, both by softening all the parts of the mouth, and promoting the discharge of saliva.

It is remarked by the learned sir John Pringle, that, in the inflammatory quinsey, or strangulation of the fauces, little benefit arises from the common gargles; that such as are of an acid nature do more harm than good, by contracting the emunctories of the saliva and mucus, and by thickening those humours; that a decoction of figs in milk and water has a contrary effect, especially if some sal-ammoniac be added; by which the saliva is made thinner, and the glands brought to secrete more freely—a circumstance always greatly conducive to the cure.

INFUSIONS.

Vegetables in general yield their virtues to an infusion in boiling water, and some even to cold water, though in the latter they require a longer time. Water is naturally adapted to extract the gummy and saline parts of vegetables, but its action is not limited to these: for the resinous and oily principles are, in most vegetables, so intimately blended with the gummy and saline, as to be in a great part taken up along with them.

Of pure salts, water dissolves only certain determinate quantities. By applying heat, however, it is generally enabled to take up more than it can do in the cold, and this in proportion to the degree of the heat. But as the liquor cools, this additional quantity separates, and the water retains no more than it would have dissolved without heat.

With gummy substances, on the other hand, it unites without limitation, dissolving more and more of them till it loses its fluidity.

It has been imagined that vegetables in a fresh state, while their oily, resinous, and other active parts, are already blended with a watery fluid, would yield their virtues to water more freely and more plentifully than when their native moisture has been dissipated by drying. Experience however evinces, that dry vegetables, in general, give out more than such as are fresh; water seeming to have little action upon them in their recent state. In making infusions, therefore, it is always better to use the vegetables in a dry state; and it deserves to be remarked, that even from those vegetables, which are weak in virtue, rich infusions may be obtained, by returning the liquor upon fresh quantities of the subject, the water thence becoming still more impregnated with the active parts.

Bitter Infusion.

Take of gentian root, half an ounce; Seville orange peel, dried, and carefully freed from the inner white part, two drachms. Cut them in small pieces, and infuse them in a quart of boiling water for some hours; after which strain off the liquor.

For want of appetite, or complaints of the stomach arising from indigestion, a tea-cupful of this infusion may be taken two or three times a day.

Infusion of Peruvian-bark.

To an ounce of the bark, in powder, add four table-spoonfuls of brandy, and a pint of boiling water. Let them infuse for twenty-four hours, or even double that time; after which strain the liquor.

This is a light and strengthening preparation of the bark for weak stomachs; and may be taken in the quantity of a tea-cupful, two or three times a day.

The infusion may likewise be made with cold water.

Infusion of Linseed.

Take of linseed, two table-spoonfuls; liquorice-root, sliced, half an ounce; boiling water, three pints. Let them infuse in a gentle heat for some hours, and then strain off the liquor.

If an ounce of the leaves of colt's-foot be added to these ingredients, it will then be the *pectoral infusion*. Both these, taken as ordinary drink, are serviceable not only in coughs and other complaints of the breast, but in difficulty of making water, when occasioned by a spasm which has its foundation in an acrimony of the humours.

Infusion of Roses.

Take of red roses, dried, half an ounce; boiling water, a quart; vitriolic acid, commonly called oil of vitriol, half a drachm; loaf sugar, an ounce.

Infuse the roses in the water for four hours, in an unglazed earthen vessel; afterwards pour in the acid, and, having strained the liquor, add to it the sugar.

In an excessive flow of the *menses*, vomiting of blood, and other hæmorrhages, a tea-cupful of this infusion may be taken every three or four hours. It likewise makes a good gargle, where a gentle astringent is required.

Spanish Infusion.

Take of Spanish juice, cut into small pieces, an ounce; salt of tartar, three drachms. Infuse in a quart of boiling water for a night. To the strained liquor add an ounce and a half of the syrup of poppies.

In recent colds, coughs, and obstructions of the breast, a tea-cupful of this infusion may be taken with advantage three or four times a day.

JULEPS.

By a julep is commonly understood an agreeable liquor, designed as a vehicle for medicines of greater efficacy, or to be drunk after them, or taken occasionally as an auxiliary. The basis of this kind of medicine is usually common water, or a simple distilled water, with one-third or one-fourth of its quantity of a distilled spirituous water, and as much syrup or sugar as will render the mixture agreeable. The composition is sharpened with vegetable or mineral acids, or impregnated with other medicines suitable to the particular intention.

Camphorated Julep.

Take of camphor one drachm; rectified spirit of wine, ten drops; double-refined sugar, half an ounce; boiling, distilled water, one pint. Rub the camphor first with the spirit of wine, then with the sugar; lastly, add the water by degrees, and strain the liquor.

This julep is adapted to hysterical and other complaints where camphor is proper, and may be taken in the quantity of a table-spoonful or two as often as the stomach will bear it.

Cordial Julep.

Take of simple cinnamon-water four ounces; Jamaica-pepper water, two ounces; volatile aromatic spirit and compound spirit of lavender, of each two drachms; syrup of orange-peel, an ounce. Mix them.

In disorders accompanied with great weakness and depression of spirits this is given in the quantity of two spoonfuls three or four times a day.

Musk Julep.

Take of musk half a drachm; double-refined sugar, half an ounce; simple cinnamon-water, four ounces; volatile, aromatic spirit, two drachms. Grind the musk well with the sugar, and then add gradually the other ingredients.

In the low state of nervous fevers, hiccup, convulsions, and other spasmodic affections, two table-spoonfuls of this julep may be taken every two or three hours.

Saline Julep.

Dissolve two drachms of salt of tartar in three ounces of fresh lemon-juice strained: when the effervescence is over, add of mint-water and common water each two ounces; double-refined sugar, six drachms.

This julep, by abating sickness at the stomach, tends to relieve vomiting; and, by promoting perspiration, may likewise be serviceable in fevers, especially those of the inflammatory kind.

For answering the former intention, however, the medicine is more effectual when taken during the act of effervescence, and ought, therefore, to be administered in the form of a draught, consisting of a scruple of the salt, a table-spoonful of the juice of lemon, an ounce of mint-water, half that quantity of common water, and a bit of loaf sugar.

MIXTURES.

The difference between a mixture and a julep is, that the former receives into its composition not only salts, extracts, and other substances dissoluble in water, but also earths, powders, and such substances as cannot be dissolved. A mixture is seldom agreeable either to the eye or taste, but may, notwithstanding, be a very useful medicine; and there are substances which have greater effect when administered in this than in any other form.

Astringent Mixture.

Take of the electuary of catechu, commonly called japonic confection, half an ounce; simple cinnamon-water and common water, of each three ounces; spirituous cinnamon-water, an ounce and a half. Mix them.

This mixture is useful in dysenteries which are not of long standing. After the necessary evacuations, a spoonful or two of it may be taken every four hours, interposing a dose of rhubarb every second or third day.

Squill Mixture.

Take of simple cinnamon-water five ounces; vinegar of squills, one ounce; syrup of marsh-mallows, an ounce and a half. Mix them.

This mixture is beneficial in asthmatic complaints from tough phlegm, and for promoting a discharge of urine in dropsical persons.

A table-spoonful of it may be taken every two hours, or oftener.

OINTMENTS, LINIMENTS, AND CERATES.

Extraordinary virtues have been ascribed to preparations of this kind in the cure of wounds, sores, &c.; but the principal use of them is to defend from the external air, and to retain such substances as may be necessary for drying and cleansing wounds and ulcers, destroying proud flesh, &c.

Yellow Basilicon Ointment.

Take of yellow wax, white resin, and frankincense, each a quarter of a pound; melt them together over a gentle fire; then add, of hog's lard prepared, one pound. Strain the ointment while warm.

This ointment is generally employed for cleansing and healing wounds and ulcers.

Ointment of Calamine.

Take of olive-oil a pint and a half; white wax, and calamine-stone levigated, of each half a pound. Let the ca lamine-stone, reduced into a fine powder, be rubbed with some part of the oil, and afterwards added to the rest of the oil and wax previously melted together, continually stirring them till quite cold.

This ointment, commonly known by the name of *Turner's Cerate*, is a very beneficial application in burns, scalds, and excoriations, from whatever cause.

Emollient Liniment.

Take of palm oil, two pounds; olive oil, a pint and a half; yellow wax, half a pound; Venice turpentine, a quarter of a pound. Melt the wax in the oils over a gentle fire; then mix with them the turpentine, and strain the ointment.

This is used for anointing inflamed parts, hard tumors, &c.

Eye-Ointment.

Take of hog's lard, prepared, four ounces; white wax, two drachms; tutty, prepared, one ounce. Melt the wax with the lard over a gentle fire, and then sprinkle in the tutty, continually stirring them till the ointment be cold.

Issue-Ointment.

Mix half an ounce of Spanish flies, finely powdered, with six ounces of yellow basilicon ointment.

This ointment is chiefly intended for dressing blisters, in order to keep them open during pleasure.

Mercurial Ointment.

Take of quicksilver two ounces; hog's lard, three ounces; mutton suet, one ounce. Rub the quicksilver with an ounce of the hog's lard in a warm mortar till the globules be perfectly extinguished; then rub it up with the rest of the lard and suet, previously melted together.

The principal use of this ointment is to convey mercury into the body by being rubbed upon the skin.

Ointment of Sulphur.

Take of hog's lard, prepared, four ounces; flowers of sulphur, an ounce and a half; crude sal-ammoniac, two drachms; essence of lemon, ten or twelve drops. Make them into an ointment.

This is the safest, best, and least offensive, application for the itch, which it cures with certainty by being rubbed upon the parts affected.

White Ointment.

Take of olive oil, one pint; white wax and spermaceti, of each three ounces. Melt them with a gentle heat, and keep them constantly and briskly stirring together till quite cold.

If two drachms of camphor, previously rubbed with a small quantity of oil, be added to the above, it will make the *white camphorated liniment.*

These are useful cooling ointments, serviceable in excoriations and similar frettings of the skin.

Liniment for Burns.

Take equal parts of Florence oil, or of fresh-drawn lintseed oil, and lime-water: shake them well together in a wide-mouthed bottle, so as to form a liniment.

This is a very proper application for recent scalds or burns. It may either be spread upon a cloth, or the parts affected may be anointed with it two or three times a day.

Liniment for the Piles.

Take of emollient ointment two ounces; laudanum, half an ounce. Mix these ingredients with the yolk of an egg, and work them well together.

Volatile Liniment.

Take of water of ammonia, or spirit of hartshorn, half an ounce; olive oil, one ounce and a half. Cork the phial, and shake them together.

This excellent composition was introduced by sir John Pringle, who observes that, in the inflammatory quinsey, a flannel, moistened with this liniment and applied to the throat, to be renewed every four or five hours, is one of the most efficacious remedies; and that it seldom fails, after bleeding, either to lessen or carry off the complaint. Where the skin cannot bear the acrimony of this mixture, a larger proportion of oil may be added.

The great utility of this application is now universally acknowledged.

Camphorated Oil.

Rub an ounce of camphor with two ounces of olive oil in a mortar till the camphor be entirely dissolved.

This liniment is used in obstinate rheumatisms, and in some other cases accompanied with great pain and tension of the parts.

PILLS.

This form is peculiarly adapted to such medicines as operate in a small dose, and, by their disagreeable taste or smell, require to be concealed from the palate; but it is not calculated for medicines which are intended to operate quickly, as pills may lie a considerable time on the stomach before they are sufficiently dissolved to produce any effect. Light dry powders require syrup or mucilages to make them into pills; and the more ponderous, such as the mercurial and other preparations, thick honey, conserve, or extracts.

Fœtid Pill.

Take of asafœtida half an ounce; simple syrup, as much as is necessary to form into pills.

In hysteric complaints four or five pills of an ordinary size may be taken two or three times a day.

This medicine is likewise serviceable in the dry asthma.

When it is necessary that the body be kept open, a proper quantity of rhubarb, aloes, or jalap, may occasionally be added to the above mass.

Mercurial Pill.

Take of purified quicksilver two drachms; conserve of roses three drachms; liquorice finely powdered, one drachm. Rub the quicksilver with the conserve till the globules of mercury be perfectly extinguished; then add the liquorice powder, and mix them together.

The dose of these pills is different, according to the intention with which they are given. As an alterative, two or three may be taken daily. To raise a salivation four or five will be necessary.

Plummer's Pill.

Take of calomel or sweet mercury, and precipitated sulphur of antimony, each three drachms; extract of liquorice, two drachms. Rub the sulphur and mercury well together: afterwards add the extract, and, with a sufficient quantity of the mucilage of gum-arabic, make them into pills.

This pill, which receives its name from a late professor of chemistry in the university of Edinburgh, has been found a powerful yet safe alterative in obstinate cutaneous disorders, and has completed a cure after salivation had failed. In venereal cases it has likewise been employed with great advantage. Two or three pills of an ordinary size may be taken night and morning, the patient keeping moderately warm, and drinking after each dose a draught of decoction of the woods, or of sarsaparilla.

Purging Pills.

Take of Socotorine aloes and Castile soap, each two drachms; of simple syrup, a sufficient quantity to make them into pills.

Four or five of these pills will generally prove a sufficient purge. For keeping the body gently open, one may be taken night and morning. They are accounted both deobstruent and stomachic, and answer all the purposes of Dr. Anderson's pills, of which the principal ingredient is aloes.

Where aloetic purges are improper, as in sanguine and plethoric constitutions, the following pills may be used:

Take extract of jalap and vitriolated kali, of each two drachms; syrup of ginger, as much as will make them of a proper consistence for pills. These pills may be taken in the same quantity as the aloetic above mentioned.

Pills for the Jaundice.

Take of Castile soap, Socotorine aloes, and rhubarb, each one drachm; simple syrup, as much as will make them into pills.

Five or six of them may be taken twice a-day, more or less, as is necessary to keep the body open. During the use of them, however, it will be proper to interpose now and then a vomit of ipecacuanha or tartar emetic.

Squill Pills.

Take of squills, dried and finely powdered, a drachm and a half; gum-ammoniac, and cardamom-seeds in powder, of each three drachms; simple syrup, a sufficient quantity.

In dropsical and asthmatic complaints two or three of these pills may be taken twice a-day, or oftener, if the stomach will bear them.

Strengthening Pills.

Take soft extract of the Peruvian bark, and vitriolated iron or salt of steel, each a drachm. Make them into pills of an ordinary size.

In disorders arising from great relaxation, such as the *chlorosis,* or green-sickness, two of these pills may be taken twice or thrice a-day.

PLASTERS.

Plasters are formed chiefly of oily and unctuous materials, united with powders; but the consistence of them is different, according to the respective purposes for which they are intended. Such as are designed for the breast or stomach ought to be soft and yielding, while those adapted to the limbs are made more firm and adhesive.

An opinion has been entertained that plasters might be impregnated with the virtues of different vegetables, by boiling the fresh vegetables with the oil employed in the composition of the plaster; but it is found that this expedient, however apparently promising, does not communicate to the oils any valuable qualities.

The *calces* of lead, boiled with oils, unite with them into a plaster of a proper consistence, which forms the basis of several other plasters. During the process of boiling these compositions, a quantity of hot water must be added from time to time, to prevent the plaster from burning and becoming black: but this must be done gradually and with great care, lest it cause the matter to explode, to the danger of the operator; an accident which is liable to happen, if the plaster be extremely hot.

Common Plaster.

Take of common olive oil, six pints; litharge, reduced to a fine powder, two pounds and a half. Boil the litharge and oil together over a gentle fire, continually stirring them, and keeping always about half a gallon of water in the vessel. When they have boiled about three hours, a little of the plaster may be taken out and put into cold water, to try whether it be of a proper consistence. As soon as that is the case, the whole may be suffered to cool, and the water well pressed out of it with the hands.

This plaster is generally applied in slight wounds and excoriations of the skin. Its effect is to keep the part soft and warm, and defend it from the air; but its principal use is to serve as a basis for other plasters.

Adhesive Plaster.

Take of common plaster, half a pound; of Burgundy pitch, a quarter of a pound; melt them together.

This plaster is principally used for retaining other dressings.

Anodyne Plaster.

Melt an ounce of adhesive plaster, and, when it is cooling, mix with it a drachm of opium powdered, and the same quantity of camphor, previously rubbed up with a little oil.

This plaster is employed in acute pains, especially of the nervous kind, and generally gives ease.

Blistering Plaster.

Take of Venice turpentine, six ounces; yellow wax, two ounces; Spanish flies, in fine powder, three ounces; powdered mustard, one ounce. Melt the wax, and, while it is warm, add to it the turpentine, taking care not to evaporate it by too much heat. After the turpentine and wax are sufficiently incorporated, sprinkle in the powders, continually stirring the mass till it be cold.

This plaster being made in a variety of ways, it is found to vary greatly in consistence. When compounded with oils and other greasy substances, its efficacy is diminished, and it is apt to run; while, on the other hand, pitch and resin render it too hard, and very inconvenient for use.

When the blistering plaster is not at hand, its place may be supplied by mixing with any soft ointment a sufficient quantity of powdered flies, or by forming them into a paste with flower and vinegar.

Gum Plaster.

Take of the common plaster, four pounds; gum-ammoniac and galbanum, strained, of each half a pound.

Melt them together, and add of Venice turpentine, six ounces.

This plaster is used as a digestive, and likewise for discussing indolent tumors.

Mercurial Plaster.

Take of common plaster, one pound; of gum-ammoniac, strained, half a pound. Melt them together, and, when cooling, add eight ounces of quicksilver, previously extinguished by triture, with three ounces of hog's lard.

This plaster is used for pains of the limbs arising from a venereal cause; and likewise for tumors, particularly indurations of the glands.

Compound Plaster of Laudanum.

Take of laudanum, three ounces; frankincense, one ounce; cinnamon powdered, and the expressed oil of nutmegs, of each half an ounce; oil of spearmint, one dram. Having melted the frankincense, add to it first the laudanum softened by heat, and then the oil of nutmegs. Afterwards mix these with the cinnamon and oil of mint; and beat them together in a warm mortar, into a mass, which is to be kept in a close vessel.

This plaster is usually applied to the pit of the stomach, in a weakness of that organ, in vomitings, the disorder called the heartburn, &c. But the pit of the stomach, as Hoffman observes, is not always the most proper place for applications of this kind. If applied to the five lower ribs of the left side, towards the back, the stomach will in general receive more benefit from it; the greater part of that organ being situated under them.

Anti-hysteric Plaster.

Take of common plaster, and asafœtida, strained, each two ounces; yellow wax and galbanum, strained, each one ounce. Melt them in a gentle heat, and stir them together, so as to mix.

In hysteric cases, this plaster is applied over the belly, and sometimes produces good effects.

POWDERS.

This form admits only of such materials as are capable of being sufficiently dried to become pulverable without the loss of their medicinal virtue. There are, however, many substances which cannot be conveniently taken in powder. For example, bitter, acrid, fœtid drugs, are too disagreeable; emollient and mucilaginous herbs and roots are too bulky; pure resins cohere, and become tenacious in the mouth; fixt alkaline salts liquify upon exposing the composition to the air; and volatile alkalis exhale, if not immediately swallowed.

The lighter powders may be taken in any agreeable thin liquid, such as tea, or water-gruel. The more ponderous powders, particularly those prepared from metallic substances, require a more consistent vehicle, as syrup, conserve, honey, or the like. Resinous substances, likewise, are most commodiously taken in thick liquors; otherwise they are apt to run into lumps, which do not afterwards easily dissolve.

Gums and such other substances as are difficult to powder should be pounded along with the drier materials; but those which are too dry, especially aromatics, ought to be sprinkled during their pulverization, with a few drops of any proper water.

Aromatic powders ought to be prepared only in small quantities at a time, and kept in glass vessels very closely stopped. Indeed, powders of any kind should not be exposed to the air, nor kept too long; otherwise their virtues will suffer a great diminution.

Astringent Powder.

Take of alum, one ounce and a half; gum-kino, three drachms. Rub them together into a fine powder.

In an immoderate flow of the *menses*, and other hæmorrhages, this powder may be given from five to fifteen grains or more, every four hours.

Carminative Powder.

Take of coriander-seed, half an ounce; ginger, one drachm; nutmegs, half a drachm; double-refined sugar, a drachm and a half. Reduce them into powder for twelve doses.

This powder is used for expelling flatulencies arising from indigestion, and particularly troublesome to hysteric and hypochondriac constitutions. It may likewise be given in small quantities to children, in their food, when affected with gripes.

Compound Powder of Chalk.

Take of chalk, two ounces; cinnamon, one ounce; tormentil-root and gum-arabic, of each six drachms; long pepper, one drachm. Reduce these ingredients into a fine powder.

Compound Powder of Chalk with Opium.

Take of compound powder of chalk, one ounce; hard purified opium, powdered, ten grains. Mix them.

These powders are considered as warm absorbents, particularly useful in diarrhœas proceeding from acidity. That with opium is employed in cases of great irritability, where the aromatic absorbents require the assistance of such a medicine.

The powder with opium may be taken in the quantity of two scruples, repeated every five or six hours, if necessary; but the powder without opium, more frequently, and in larger doses.

Aromatic Powder.

Take of cinnamon, cardamom-seeds, and ginger, each half an ounce. Beat them together into a powder.

This may be taken for the same purposes as the carminative powder.

Sudorific Powder.

Take of ipecacuanha, and purified opium, each one drachm; vitriolated kali, one ounce. Mix these ingredients, and reduce them into a fine powder.

This medicine has been much celebrated under the name of Dover's Powder. It is a powerful sudorific, frequently of great advantage in obstinate rheumatisms, and other cases where a copious sweat is required. Its intention is better promoted by drinking with it some warm diluting liquor. It may be given in doses from ten grains to a scruple, or half a drachm.

Worm-Powders.

Take equal parts of worm-seed and tin reduced into fine powder, and mix them together.

Half a drachm of this powder may be taken by an adult twice a-day, in a little honey or treacle; and, after using it three or four days, the following purgative powder is to be taken.

Take of rhubarb, a scruple; calomel, five grains. Mix them.

SYRUPS.

Syrups were formerly considered as of great importance, and almost entirely superseded every other medicine, particularly those of the alterative kind. At present, however, they are employed chiefly as vehicles for medicines of greater efficacy; being used for sweetening draughts, juleps, or mixtures; and for reducing the lighter powders into boluses, pills, and electuaries; all which purposes may be answered by the simple syrup alone.

Simple Syrup.

This is made by dissolving in water, either with or without heat, about double its weight of fine sugar.

If twenty-five drops of laudanum be added to an ounce of the simple syrup, it will supply the place of diacodium, or the syrup of poppies, and will be found a more certain medicine.

The lubricating virtues of the syrup of marsh-mallows may likewise be supplied, by adding to the common syrup a sufficient quantity of mucilage of gum-arabic.

The juice of lemons may be preserved in the form of a syrup, by dissolving in it, with the heat of a warm bath, nearly double its weight of fine sugar. The juice, however, ought to be previously strained, and suffered to stand till it settles.

The syrup of ginger, which is sometimes a useful vehicle for giving medicines to persons troubled with flatulency, may be made by infusing two ounces of bruised ginger in a quart of boiling water for twenty-four hours. After the liquor has been strained, and has stood to settle for some time, it may be poured off, and a little more than double its weight of fine powdered sugar dissolved in it.

TINCTURES, ELIXIRS, &c.

Rectified spirit of wine is the appropriate liquid which extracts the resins and essential oils of vegetables, either totally unattainable by water, or yielding to it only in part.

It dissolves likewise those parts of animal substances in which their peculiar smells and tastes reside; on which account tinctures prepared with rectified spirits possess many of the most essential virtues of simples, without being clogged with their useless parts.

Water, however, being the proper menstruum of the gummy, saline, and saccharine parts of medicinal substances, it is necessary, in the preparation of several tinctures, to make use of a weak spirit, or a composition of rectified spirit and water.

Aromatic Tincture.

Infuse two ounces of Jamaica-pepper in two pints of brandy, without heat, for a few days; then strain off the liquor.

This simple tincture may answer all the purposes of the most costly preparation of aromatics. It is rather too hot to be taken by itself; but may very properly be mixed with such medicines as might otherwise prove too cold for the stomach.

Compound Tincture of the Peruvian-bark, commonly called Huxham's Tincture.

Take of Peruvian-bark, grossly powdered, two ounces; outer rind of Seville orange, dried, one ounce and a half; Virginian snake-root, bruised, three drachms; saffron, one drachm; cochineal, powdered, two scruples; proof spirit of wine, twenty ounces by measure. Infuse for a fortnight, and then strain off the liquor.

This is a good stomachic and strengthening medicine, very suitable in a relaxed state of the digestive organ, and when a person is recovering from a tedious fever. It may be taken twice a-day, in the quantity of three or four tea-spoonfuls, mixed with half a common glassful of white wine or water.

Tincture of Asafœtida.

Take of asafœtida, one ounce; brandy, half a pint. Infuse with a gentle heat for five or six days, and then strain off the liquor.

This tincture possesses all the virtues of the asafœtida, and may be given, in hysterical and nervous complaints, from ten drops to fifty or sixty, and even more.

Volatile Tincture of Gum Guaiacum.

Take of gum-guaiacum, four ounces; compound spirit of ammonia, a pint and a half. Infuse in a close vessel for three or four days, and afterwards strain the tincture.

A tea-spoonful of this tincture, taken twice a-day, in a cup of any suitable infusion, such as that of water-trefoil, is an excellent remedy in rheumatic complaints.

For domestic use, a very good tincture of guaiacum may be made by infusing the same quantity of the gum in a bottle of rum or brandy.

Tincture of Black Hellebore.

Take of the roots of black hellebore, coarsely powdered, two ounces: infuse them in a pint of proof spirit, for a week; then filter the tincture through paper.

If a scruple of cochineal be infused along with the roots, it will give the tincture an agreeable colour.

In obstructions of the *menses*, a tea-spoonful of this tincture, taken in a cup of chamomile, or penny-royal tea, is a useful medicine.

Tincture of Opium, or Liquid Laudanum.

Take of crude opium, two ounces; spirituous aromatic water, and mountain wine, of each ten ounces. Dissolve the opium, sliced, in the wine, with a gentle heat, frequently stirring it: afterwards add the spirit, and strain off the tincture.

As twenty drops of this tincture contain about a grain of opium, the common dose may be from twenty to thirty drops.

Tincture of Rhubarb.

Take of rhubarb, two ounces and a half; lesser cardamom-seeds, half an ounce; brandy, two pints. Digest for a week, and then strain the tincture.

Those who prefer a vinous tincture of rhubarb, may infuse the above ingredients in a bottle of Lisbon wine, adding to it about two ounces of proof spirits.

If half an ounce of gentian-root, and a drachm of Virginian snake-root, be added to the above ingredients, it will make the bitter tincture of rhubarb.

These several tinctures are designed as stomachics and strengtheners as well as purgatives. In weakness of the stomach or intestines, they are frequently of great service. The dose is from four tea-spoonfuls to three or four table-spoonfuls, or more, according to the circumstances of the patient, and the purpose for which it is intended.

Paregoric Elixir, or Camphorated Tincture of Opium.

Take of flowers of benzoin, half an ounce; opium, two drachms. Infuse in one pound of the volatile aromatic spirit, for four or five days, frequently shaking the bottle; afterwards strain the elixir.

This is an agreeable and safe composition for administering opium. It eases pain, allays tickling coughs, relieves difficult breathing, and is useful in many disorders of children, particularly the hooping-cough.

The dose to an adult is from fifty to a hundred drops.

Sacred Elixir.

Take of rhubarb cut small, ten drachms; Socotorine aloes, in powder, six drachms; lesser cardamom seeds, half an ounce; French brandy, two pints. Infuse for two or three days, and then strain the elixir.

This is a useful stomachic purge, and may be taken from one ounce to an ounce and a half.

CAMPHORATED SPIRIT OF WINE.

Dissolve an ounce of camphor in a pint of rectified spirits.

This medicine is chiefly employed as an embrocation in bruises, palsies, the chronic rheumatism, and for preventing gangrenes.

Spirit of Mindererus.

Take of volatile sal ammoniac, any quantity. Pour upon it gradually distilled vinegar, till the effervescence ceases.

This medicine is useful in promoting a discharge both by perspiration and urine. It is also a good external application in strains and bruises.

When intended to raise a sweat, half an ounce of it in a cup of warm gruel may be given to the patient in bed, every hour, till it has the desired effect.

VINEGARS.

Vinegar is an acid produced from vinous liquors by a second fermentation. It is a useful medicine both in inflammatory and putrid disorders. It not only cools the blood, but counteracts a tendency to putrefaction, and allays inordinate motions of the vascular and nervous system. It likewise promotes the natural secretions, and in some cases excites a copious sweat, where the warm medicines, called alexipharmic, tend rather to prevent that salutary evacuation.

Faintings, vomitings, and other hysteric affections, are often relieved by vinegar applied to the mouth and nose, or received into the stomach. It is highly serviceable in correcting many poisonous substances, when taken into the stomach, as well as in promoting their discharge by the different emunctories, when received into the blood.

Besides its usefulness as a medicine, vinegar is employed to extract the virtues of several other medicinal substances. Most of the odoriferous flowers impart to it their fragrance, accompanied with a beautiful purplish or red colour. It also improves the efficacy of garlic, gum-ammoniac, squills, and some other valuable medicines.

These effects, however, are only to be expected from vinegar that is genuine, sound, and well prepared. It is allowed, that the best vinegars are those prepared from French wines.

It is necessary for some purposes that the vinegar be distilled; but this operation requiring a particular chemical apparatus, we shall not detail it.

Vinegar of Litharge.

Take of litharge, half a pound; strong vinegar, two pints. Infuse them together in a moderate heat for three days, frequently shaking the vessel; then filter the liquor.

This medicine is seldom employed, from a general notion of its being dangerous; though there is reason to believe, that the preparations of lead with vinegar might be used in many cases both with safety and advantage: for a preparation of a similar nature has lately been introduced into practice by Goulard, a French surgeon, who calls it the *Extract of Saturn,* and directs it to be made in the following manner:

Take of litharge, one pound; vinegar, made of French wine, two pints. Put them together into a glazed earthen pipkin, and let them boil, or rather simmer, for an hour, or an hour and a quarter, taking care to stir them all the while with a wooden spatula. After the whole has stood to settle, pour off the liquor which is upon the top into bottles for use.

With this extract Goulard makes his *vegeto-mineral water*, which he recommends in various external disorders, such as inflammations, burns, bruises, strains, ulcers, &c. He likewise prepares with it a number of other medicinal forms, viz. poultices, plasters, ointments, powders, &c.

Vinegar of Roses.

Take of red roses, half a pound; strong vinegar, half a gallon. Infuse in a close vessel for several weeks, in a gentle heat; then strain off the liquor. This is chiefly used as an embrocation for head-achs, &c.

Vinegar of Squills.

Take of dried squills, two ounces; distilled vinegar, two pints. Infuse for ten days or a fortnight in a gentle degree of heat; afterwards strain off the liquor, and add to it about a twelfth part of its quantity of proof spirits.

This is an efficacious medicine in disorders of the breast, proceeding from tough phlegm; and likewise in dropsical cases for promoting a discharge of urine.

When this medicine is intended for a vomit, it should be given in the quantity of an ounce or more; but in other cases the dose is from a drachm to half an ounce, mixed with cinnamon-water, or some other agreeable aromatic liquor, to prevent the nausea which it is apt to occasion.

WATERS BY INFUSION, &c.

Lime-water.

This is directed to be made with different proportions of lime and water. In the Dispensatory of the London College, the proportion is half a pound of quick-lime to twelve ounces of water; in that of the Edinburgh College, it is half a pound of lime to twelve pounds of water. It does not appear, however, that the different proportions of water occasion any sensible difference in the strength of the product. The quick-lime is far from yielding all its soluble parts to either of the proportions above mentioned; the remainder giving a strong impregnation to many fresh quantities of water, though not so strong as to the first. The method of making lime-water may, therefore, be condered as arbitrary. By some it is made in the following anner:

Pour two gallons of water gradually upon a pound of esh burnt quick-lime; and, when the ebullition ceases, ir them well together: then suffer the whole to stand at est till the lime has settled; after which filter the liquor hrough paper, and keep it in vessels closely stopt.

Calcined oyster-shells may be used instead of quick-me.

Lime-water is chiefly used in complaints from the gravel; n which cases it may be taken daily from a pint to two or ore. Externally it is employed for washing foul ulcers, nd removing some diseases of the skin.

Compound Lime-water.

Take shavings of guaiacum wood, half a pound; liquo-ice-root, one ounce; sassafras bark, half an ounce; cori-nder seeds, three drachms; simple lime-water, six pints. nfuse without heat for two days, and then strain off the iquor.

In the same manner may lime-water be impregnated with he virtues of other vegetable substances. By this means he water is not only rendered more agreeable to the pa-ate, but also more efficacious, especially in cutaneous dis-rders, and a vitiated state of the fluids.

Styptic-water.

Take of blue vitriol and alum, each an ounce and a half; water, one pint. Boil them until the salts are dissolved; then filter the liquor, and add to it a drachm of the oil of vitriol.

This water is employed for stopping a bleeding at the nose, and other hæmorrhages; for which purpose cloths or dossils dipt in it must be applied to the part.

Tar-water.

Pour a gallon of water on two pounds of Norway tar, and stir them strongly together with a wooden rod. When they have stood to settle for two days, pour off the water for use.

This water was formerly celebrated in many diseases, acute as well as chronic; and though its virtues were exag-gerated by men of great eminence, it is still acknowledged to be a valuable medicine. It excites appetite, promotes digestion, and increases the secretions, particularl of urine.

Cinnamon-water.

Steep one pound of cinnamon-bark, bruised, in a g and a half water, and one pint of brandy, for two and then distil off one gallon.

This is an agreeable aromatic water, highly end with the fragrance and cordial virtues of the spice.

Great care should be had in the choice of the cinna to avoid the too common imposition of substituting ca bark in its room. The latter yields a water much agreeable than that of cinnamon, and the flavour of w is manifestly empyreumatic. The two drugs may be e distinguished from one another by their manner of break Cassia-bark breaks over smooth, while cinnamon splin The former has likewise a slimy and mucilaginous ta without any thing of the roughness of the true cinnamo

Pennyroyal-water.

Take of pennyroyal leaves, dried, a pound and a h water, from a gallon and a half to two gallons. Draw by distillation one gallon.

This water is endowed with the smell, taste, and me cinal virtues of the plant. It is employed in juleps a mixtures adapted to the hysteric disorder.

An infusion of the herb in boiling water may be us with nearly equal advantage.

Peppermint-water, and Spearmint-water.

Both these may be prepared in the same manner as th preceding.

They are much used as stomachic waters, in sickne at the stomach and vomiting; particularly where the cau of these complaints is indigestion, or cold viscid phlegm They are also employed in some colicky complaints, th gout in the stomach, &c. In the last of these, especially the peppermint-water is the most powerful.

Rose-water.

Take of roses fresh gathered, six pounds; water, two gallons. Distil off one gallon.

This water is chiefly regarded on account of its agreeable flavour.

Jamaica Pepper water.

Take of Jamaica pepper, half a pound; water, a gallon and a half. Distil off one gallon.

This water is generally found agreeable both in flavour and taste, and may answer the purposes of the more costly aromatic waters.

SPIRITUOUS DISTILLED WATERS.

Spirituous Cinnamon-water.

Take of cinnamon-bark, one pound; proof spirit, and common water, of each one gallon. Steep the cinnamon in the liquor for two days; then distil off one gallon.

Spirituous Jamaica Pepper water

Take of Jamaica pepper, half a pound; proof spirit, three gallons; water, two gallons. Distil off three gallons.

This a sufficiently agreeable cordial, and may supply the place of the *aromatic water*.

WHEYS.

Alum Whey.

Boil two drachms of alum, powdered, in a pint of milk, till it is curdled; then strain out the whey.

This whey is used with advantage in an immoderate flow of the *menses*, and in a *diabetes*, or excessive discharge of urine.

It is taken in the quantity of two, three, or four ounces, according as the stomach will bear it, three times a-day. If it should occasion vomiting, it may be diluted.

Mustard Whey.

Take milk and water, of each a pint; mustard-seed, bruised, an ounce and a half. Boil them together till the curd is perfectly separated; afterwards strain the whey through a cloth.

This preparation of mustard warms and invigorates the system, and promotes the different secretions. It will often supply the place of wine in the low state of nervous fevers;

and is also useful in the chronic rheumatism, palsy, dro
&c. It may be rendered more agreeable to the palate
the addition of a little sugar.

The usual dose is an ordinary tea-cupful four or
times a-day.

Scorbutic Whey.

Take of the scorbutic juices, half a pint; milk, a qua
Boil them till the curd be separated.

The scorbutic plants are chiefly brook-lime, gard
scurvy-grass, and water-cresses.

Many other wheys may be prepared in nearly the sa
manner; such as orange-whey, cream of tartar whey, vi
gar-whey, &c. These are cooling pleasant drinks in feve
and may be rendered cordial, when necessary, by the a
dition of wine.

WINES.

Wine is not only an article at table, and, where it can
procured genuine, one of the most useful cordials, but
also employed as a *menstruum* for extracting the virtues
other medicinal substances. Being itself a natural co
pound of water, inflammable spirit, and acid, it acts bo
upon vegetable and animal substances; dissolving likewi
some bodies of the mineral kind, such as antimony, iro
&c. whence it becomes impregnated with their respecti
virtues.

Antimonial Wine.

Take glass of antimony, reduced to a fine powder, ha
an ounce; Lisbon wine, eight ounces. Digest, witho
heat, for three or four days, now and then shaking t
bottle: afterwards filter the wine through paper.

The dose of this wine is regulated according to the i
tention for which it is prescribed. As an alterative an
diaphoretic, it may be taken from ten to fifty or sixty drop
In a large dose it generally proves purgative, or excit
vomiting.

Aloëtic Wine.

Take of socotorine aloes, one ounce; ginger, thr
drachms. Digest them for a week in a pint of mountai
wine, and half a pint of brandy, frequently shaking t
bottle; and afterwards strain off the tincture.

This composition, taken from one to two ounces, is a seful purge for persons of a phlegmatic habit; but is more ommonly used in small doses as an alterative.

Ipecacuanha Wine.

Take of ipecacuanha, in powder, one ounce; mountain ine, a pint. Infuse for three or four days; then filter the ncture.

This is a safe vomit, and is well adapted for those whose omachs are too irritable to bear the ingredient in powder. The dose is from one ounce to an ounce and a half.

Chalybeate or Steel Wine.

Take filings of iron, two ounces; cinnamon and mace, f each two drachms; Rhenish wine, two pints. Infuse r three or four weeks, frequently shaking the bottle; and terwards pass the wine through a filter. Instead of Rhe-ish wine may be used Lisbon, sharpened with half an unce of cream of tartar, or a small quantity of the vitriolic id.

Stomachic Wine.

Take of Peruvian bark, grossly powdered, one ounce; range-peel, bruised, half an ounce. Infuse in a bottle of isbon wine for five or six days; and then strain off the ine.

This wine is not only useful in a weakness of the stomach d intestines, but may also be taken as a preventive, by ersons liable to intermitting fevers, or who reside in places here the disease is prevalent; and will likewise be of ad-antage to those who recover slowly after fevers of any ind, by promoting digestion, and restoring the general rength. A glassful of it may be taken two or three times day.

Familiar Explanation of the Nature of ACIDS, ABS-BENTS, ALKALINE *and* NEUTRAL SALTS.

THESE substances being of great importance in the c of diseases, it seems proper to give the reader a gen idea of their nature and medicinal effects upon the body

ACIDS.

Every substance is said to be acid which excites sensation of sourness upon the organs of taste; will cha certain blue vegetable colours into red, as the juice of tu sole, syrup of violets, &c. and will, in common, tho not universally, effervesce with alkalies. Acids are anim vegetable, and mineral. The vegetable are the nat such as the juice of lemons, citrons, &c. or the produc fermentation, as vinegar. The mineral are those sulphur or vitriol, nitre, and common salt. The anima obtained from ants, and some other insects, in considera quantities. It is also contained in human fat, and in suet of animals that ruminate.

The medicinal effects of acids, duly diluted, and ex bited in proper doses, are to cool, quench thirst, corr a tendency to putrefaction, and allay inordinate moti of the blood. By these qualities, in hot bilious tempe ments and inflammatory disorders, they frequently restr immoderate hæmorrhages, and promote the natural cretions. In ardent fevers they correct the inflammat disposition of the fluids, and excite a diaphoresis, m certainly, and with greater safety, than any other spe of medicine. In fainting, lethargic, and hysteric p oxysms, vinegar, in particular, if applied to the nose mouth, often affords great relief; and, in many instan more than by volatile alkaline spirits, or fœtid gums.

Vegetable acids, particularly the native juices of cert plants and fruits, have some degree of saponaceous quali by means of which they attenuate or dissolve viscid phleg and deterge the vessels, and thus prove serviceable various chronical disorders. Great effects have been e perienced from their continued use in inveterate scurvi especially when given in conjunction with medicines of t acrid or pungent kind; and it is found that the latter have much better effects when thus managed than when exhibited by themselves.

The mineral acids instantly coagulate the blood; but the vegetable dilute it, even when inspissated or thickened by heat; in which state watery liquors alone will not properly mingle with it. Hence, in some fevers, where water runs off by the kidneys almost as pale and insipid as when drunk, vegetable acids render the urine of the due colour and quality. A like effect is produced by mineral acids, the spirit of nitre in particular, combined with vinous spirits.

Acids, however, are prejudicial in cold, pale, phlegmatic habits, where the vessels are lax, the circulation languid, and the bile deficient in quantity. In these constitutions an acid is often generated too copiously in the stomach, from milk and vegetable food, which occasions uneasiness in that organ, flatulencies, sometimes pains, likewise, of the bowels, and vomiting or purging.

ABSORBENTS.

Absorbents, taken in a general sense, are all such medicines as have the power of drying up redundant humours, either internally or externally; but this denomination is now generally restricted to certain earths suited to take acids into their pores, and at the same time to destroy their acid quality. These substances are—oyster-shells, crabs' claws, coral, chalk, limestone, some marles, &c. By destroying acidities in the first passages, they consequently remove such disorders as proceed from that cause. When united with the acid they form a neutral, saline compound, endowed with some degree of an aperient and detergent quality, though too inconsiderable to exert much power in these respects.

In children, and adults of a weak constitution, and whose food is chiefly of the vegetable acescent kind, various complaints of the bowels, as has been already observed, are occasioned by acidities. Those disorders generally discover themselves by sour eructations, a pale colour of the face, and in children by the sour smell and green colour of the fæces, which are sometimes so manifestly acid as to raise a strong effervescence with alkaline

salts. In these cases, and these only, the use of al
bent earths is indicated: for the theory is now explo
which ascribed to these substances any primary v
in the cure of fevers, the extinction of poisons, or any c
medicinal quality.

When there are no acidities in the stomach or bowels,
sorbents are apt to form concretions with the muc
matter usually lodged in the first passages, into hard, in
soluble masses, which have sometimes been thrown u
vomit, or found in the stomach upon dissection. He
arise obstructions of the bowels, and other disord
Instances are recorded, in which the stomach and intest
have been found lined with a crust, as it were, of t
earthy substances; which must not only have preven
the separation of the gastric juices, but likewise closed
orifices of the lacteal vessels, so as to obstruct the passag
the chyle into the mass of blood.

All the absorbents, particularly those of the animal k
contain, besides their alkaline earth, a portion of glutin
matter. Of this we meet with an instance in crabs' e
If these be macerated in the weaker acids, or the stron
sufficiently diluted with water, the earthy part will be
solved, and the animal glue remain in the form of a
transparent mucilage. This glutinous substance increa
their tendency to concrete in the stomach; and he
those which contain the least of it should be preferred
the others. The mineral earths are found to contain
least of this kind of matter; and some of them are very e
of solution; for instance chalk; which may therefore
given with greater safety than the animal absorbents.

These substances, divested of their glutinous matter
means of fire, are reduced into acrimonious calces or lin
and thus become medicines of a different class.

The teeth, bones, hoofs, and horns of animals, consis
the same principles with the animal absorbents abo
mentioned, but combined in different proportions.
quantity of gelatinous matter is so large, as to defend
earthy part from the action of weak acids; while
earth, in its turn, protects the gluten from being easily
solved by watery liquors. Hence those bodies in th
crude state, though recommended as possessing singu
virtues, are in fact found to be utterly devoid of a
virtue.

FIXED ALKALINE SALTS.

Alkaline salts are either fixed or volatile. We shall first consider the former. The ashes of most vegetables, steeped or boiled in water, give out to it a saline substance, separable in a solid form by evaporating the water. This kind of salt never pre-exists in the vegetable, but is always generated during the burning. The salt thus obtained is called fixed alkaline salt. The herb kali, which grows on the sea-coasts, when dried and burnt, affords a lixivium, or ey, which, if evaporated, yields the fixed alkaline salt; and hence the name *alkali* has been given to the fixed salt of all plants. Fixed alkaline salts, from whatever vegetables hey may be obtained, are scarcely distinguishable from each other, at least in their effects as medicines. On this account the salt of tartar is as much used medicinally as any other.

Salt of tartar, or solutions of it in water, raise an effervescence on being mixed with acid liquors, and destroy their acidity; the alkali and acid uniting together into a compound of new qualities called *neutral.* Earthy substances, and most metallic bodies, previously dissolved in the acid, are precipitated from it by the alkali.

Solutions of this salt liquefy all the animal juices, except milk. They corrode the fleshy parts into a kind of mucous matter; concrete with animal fats and vegetable oils, into oap; and dissolve sulphur into a red liquor, especially if assisted by a boiling heat, and mingled with quick-lime, which greatly promotes their activity.

The medicinal virtues of this salt are, to attenuate the uices, resolve obstructions, and promote the natural secreions. A dilute solution of it drunk warm in bed generally excites sweat; but if that evacuation be not favoured, its sensible operation is by urine. Where acidities abound in he first passages, this salt absorbs the acid, and unites with t into a mild aperient neutral salt. As one of its principal effects is to render the animal fluids more thin, it is obvious hat where they are already colliquated, as in scurvies, and in all putrid disorders in general, this medicine is improper. The common dose of the salt is from two or three grains to scruple; in some circumstances it has been extended to drachm, in which case it must always be largely diluted with watery liquors.

VOLATILE ALKALINE SALTS.

As fixed alkaline salts are produced in the burning vegetables, and remain behind in the ashes, so volat alkaline salts are produced by a like degree of heat fr animal substances, and rise in distillation along with t other volatile principles; the admission of air, necess for the production of the former, is not needful for the la ter. Those salts are obtainable also from some vegeta matters, and from vegetable and animal soot. They a produced in urine by putrefaction, without fire; witho fire also they exhale from it.

Volatile alkaline salts, and their solutions, called spiri agree, in many respects, with fixed alkalies, and their solutio or leys. They effervesce with, and neutralize acid liquefy the animal juices, and corrode the fleshy parts; so a when applied to the skin, and prevented by a proper c vering from exhaling, to act as caustics. Their principal diff rence from the fixed alkalies seems to consist in their vola lity. They exhale or emit pungent vapours, in the colde state of the atmosphere; and by their stimulating sm they prove serviceable in languors and faintings. Tak internally, they discover a greater colliquating as well stimulating power; the blood drawn from a vein, aft their use has been continued for some time, being observ to be remarkably more fluid than before. They are lik wise more disposed to operate by perspiration, and to a on the nervous system. They are particularly useful lethargic cases, and hysterical and hypochondriacal d orders; and in the languors, head-achs, inflations of t stomach, flatulent colics, and other symptoms which atte them. They are generally found more serviceable in ag persons, and in phlegmatic habits, than in the opposi circumstances. In some fevers, particularly those of t low kind, accompanied with a cough, hoarseness, redu dance of phlegm, and siziness of the blood, they are great advantage; liquefying the viscid juices, raising t vital power, and exciting a salutary perspiration; but putrid fevers, scurvies, and wherever the mass of blood thin and acrimonious, they are evidently hurtful. In vern intermittents, particularly those of the slow kind, and whe the blood is dense or sizy, they are experienced to be a efficacious remedy. They have often been found to car off such disorders, without any previous evacuation, b are generally more effectual if a purge be premised; and where the patient is plethoric, or there are any inflammatory symptoms, bleeding should likewise take place before these medicines are administered.

Volatile salts are most commodiously taken in a liquid form, largely diluted; or in that of a bolus, which should be made up only as it is wanted. The dose is from one or two grains, to ten or twelve. Ten drops of a well-made spirit are reckoned to contain about a grain of the salt. In intermittents, fifteen or twenty drops of the spirit are given n a tea-cupful of cold spring water, and repeated five or six times during each intermission.

NEUTRAL SALTS.

When any acid and alkaline salts are mixed together, in such proportion as that neither of them may predominate, They form by their coalition a new compound, called neural. The salts of this denomination have a more extensive use in medicine than any other kind. In general, their operation is by stool, urine, and perspiration. In some circumstances they are likewise accounted antispasmodics. They greatly conduce to attenuate a viscid state of the humours, and to resolve obstructions in the vessels and glands.

FAMILY MEDICINE CHESTS.

IN a work of this popular nature it will not be deemed nproper to notice the construction and great utility of a omplete assortment of medicines, usually called *Family Medicine Chests.*

These small repositories contain, if properly made up, due proportion and variety of useful and necessary mediines, with implements, &c. so as to answer effectually all ie purposes of private practice.

Families, particularly those who live in the country, resident ergymen, and captains of merchant vessels, who have experienced their convenience, will never be without them. ut as many persons may not be acquainted with the prices, or know where they are constructed in the most complete and oper manner, and the qualities of the medicines such as may be depended upon, the author takes the liberty to rec mend the chests made by Messrs. Battley and Co. chem and druggists, N°79, St. Paul's Church-yard, London.

The family chests made by these gentlemen are ac rately fitted up, with a due proportion of the best m cines, &c. and accompanied with a suitable book directions.

The prices vary, according to the quantity and variet medicines, between four and sixteen pounds. For gene use, the mahogany chests of about ten pounds value will found to answer extremely well. Those of deal, conta ing the same assortment, may be had from five to se pounds.

TABLE *of* DOSES *for different Ages.*

[*The Common Dose being taken at one Drachm.*]

	Ages.	Parts of the Common Dose.	Proportions of a Drachm.	
Weeks	7	$\frac{1}{15}$	4	grain
Months	7	$\frac{1}{12}$	5	
	14	$\frac{1}{8}$	$7\frac{1}{2}$	
	28	$\frac{1}{6}$	12	
Years	$3\frac{1}{2}$	$\frac{1}{4}$	15	
	5	$\frac{1}{3}$	20	
	7	$\frac{1}{2}$	30	
	14	$\frac{2}{3}$	40	
	21	common dose	one drachm.	
	63	$\frac{11}{12}$	55	grain
	77	$\frac{5}{6}$	50	
	100	$\frac{4}{6}$	40	

Denominations of Apothecaries' Weights and English W Measures.

A pound	contains	twelve ounces.
An ounce		eight drachms.
A drachm		three scruples.
A scruple		twenty grains.
A gallon	contains	eight pints.
A pint		sixteen ounces.
An ounce		eight drachms.

A table-spoonful is the measure of half an ounce.

A GLOSSARY,

Or Explanation of the Technical Words or Phrases which could not always be avoided in the progress of this Work.

A.

ABDOMEN. The belly.

Absorbent vessels. Those that convey the nourishment from the intestines, and the secreted fluids from the various cavities into the mass of blood.

Absorbent medicines. Kinds of earths suited to take acids into their pores, and at the same time destroy their acid quality.

Acrimony. Corrosive sharpness.

Acute. This term is applied to a disease which is violent, and tends to a speedy termination.

Adult. Of mature age.

Alexipharmic. A medicine supposed to expel poison or noxious humours through the pores of the skin.

Alterative. A medicine suited to clear the blood from certain impurities with which it is supposed to be tainted.

Antiscorbutic. Good against the scurvy.

Anthelmintic. Destructive to worms.

Antispasmodic. Whatever tends to prevent or remove spasm.

Aperient. Opening.

Aphthæ. Small whitish ulcers appearing in the mouth, and generally known by the name of *thrush*.

Astringent. Binding.

Aqueous. Watery.

B.

ile, or gall. A fluid secreted by the liver into the gall-bladder, and thence discharged into the intestines, for the purpose of promoting digestion.

C.

achectic. An unhealthy state of body.

alculous. Stoney or gravelly.

arminative. Good for expelling wind.

aries. A rottenness of any bone.

hlorotic. Relating to the green-sickness.

hyle. A milky fluid, formed chiefly of the aliments, and conveyed by the absorbents from the intestines into the blood, to repair the waste of the body.

Chronic. An epithet applied to a disease, the progress which is slow.

Circulation. The motion of the blood, which is propelle by the heart through the arteries, and returns by th veins.

Comatose. Inclined to sleep.

Contagion. Infectious matter.

Crisis. A certain period in a disease, at which there hap pens a decisive alteration either for the better or th worse.

Critical. Decisive or important.

Cutaneous. Of or belonging to the skin.

D.

Delirium. A temporary disorder of the mental facultie usual in fevers.

Deobstruent. Adapted to remove obstructions.

Detergent. Cleansing.

Diaphragm. A membrane which separates the cavity the chest from that of the belly.

Diaphoretic. Promoting perspiration.

Diuretic. Whatever promotes the secretion of urine.

Dyspeptic. Belonging to bad digestion.

E.

Emetic. What excites vomiting.

Emmenagogue. Whatever promotes the menstrual discharge.

Emunctories. Passages by which any thing is discharge from the body.

Empyema. A collection of purulent matter in the cavity of the breast, the consequence of an inflammation.

Epidemic. Infectious.

Errhine. What excites sneezing.

Exacerbation. The increase of any disease.

F.

Farinaceous. Mealy.

Febrifuge. Removing fever.

Fæces. Excrements.

Fœtid. Emitting an offensive smell.

Fœtus. The child before birth, or when born before the proper period.

Flatulent. Producing wind.

Fungus. Proud flesh.

G.

Gangrene. Mortification.

Gelatinous. Gluey. Viscid.

H.

Hectic Fever. A slow consuming fever, generally attending the absorption of purulent or other acrid matter into the blood.

Hæmorrhage. A discharge of blood.

Hæmorrhoids. The piles.

Hydropic. Dropsical.

Hypochondriac Disease. Low spirits, sometimes accompanied with a depraved imagination.

Hydragogue. What carries off water by purging.

I.

Ichor. Thin matter, of an acrid kind.

Imposthume. A collection of purulent matter.

Inflammation. An increased action of the blood-vessels.

L.

Ligament. A strong tendinous membrane binding the joints of the bones.

Ligature. A bandage.

M.

Mesentery. A double membrane, connecting the intestines with the back-bone.

Miliary eruption. An eruption of small pustules, resembling the seeds of millet.

Morbid. Diseased.

Morbific. Causing disease.

Mucus. The matter discharged from the nose, lungs, &c.

Mucous. Resembling the matter discharged from the nose, lungs, &c.

N.

Narcotic. What excites sleep.

Nausea. An inclination to vomit.

Nephritic. Belonging to the kidneys.

Nervous. Irritable.

Nodes. Enlargements of the bones, arising from the venereal disease.

O.

Obtund. To blunt.

P.

Paroxysm. A fit.

Pectoral. Medicines adapted to cure diseases of the breast.

Peritonæum. A membrane lining the cavity of the belly, and covering the intestines.

Perspiration. The matter discharged from the pores of the skin in the form of vapour or sweat.

Phlegmatic. Relaxed and abounding with phlegm.

Phthisical. Consumptive.

Pituitous. Phlegmatic.

Plethoric. Full of blood.

Pulmonary. Belonging to the lungs.

Pus. Matter contained in a boil, the consequence of inflammation.

R.

Rectum. The straight gut in which the fæces are contained.

Regimen. Regulation of diet.

Respiration. The act of breathing.

Restringent. Binding.

Reticular. Made in the form of a net.

S.

Saliva. The fluid secreted by the glands of the mouth.

Sanies. A thin, and generally acrid matter, discharged from an ill-conditioned sore.

Scirrhus. A diseased hardness of glandular parts.

Slough. A part separated from a cavity by suppuration.

Spasm. A cramp, or diseased contraction.

Spine. The back-bone.

Styptic. A medicine for stopping the discharge of blood.

T.

Temperament. A peculiar habit of body, of which there are reckoned four kinds, viz. the sanguine, the bilious, the melancholic, and the phlegmatic.

Tonic. What increases the tone, or elasticity of the fibres.

U.

Ulcer. A sore, generally ill conditioned.

Umbilical. Belonging to the navel.

Ureters. Two small canals which convey the urine from the kidneys to the bladder.

Urethra. The canal which conveys the urine from the bladder.

V.

Vertigo. Giddiness.

Viscera. Bowels.

Vulnerary. Healing.

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